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Dr BRYCE

ENGLAND AND FRANCE BEFORE SEBASTOPOL.

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ENGLAND AND FRANCE

BEFORE SEBASTOPOL,

LOOKED AT

FROM A MEDICAL POINT OF VIEW.

ENGLAND AND FRANCE

BEFORE SEBASTOPOL,

LOOKED AT

FROM A MEDICAL POINT OF VIEW.

By CHARLES BRYCE, M.D.

FELLOW OF THE FACULTY OF PHYSICIANS AND SURGEONS, GLASGOW;
ATTACHED, ON SPECIAL SERVICE, TO SCUTARI HOSPITALS;
SOCIO CORRESPONDENTE DELL' ACCADEMIA DE LINCEI, ROMA;
A FOUNDER AND CORRESPONDING MEMBER OF THE IMPERIAL SOCIETY OF MEDICINE, CONSTANTINOPLE:
AUTHOR OF "SKETCH OF THE STATE OF MEDICINE IN TURKEY," "MEMOIR ON THE REMITTENT FEVER OF THE LEVANT," ETC.

When you shall these unlucky deeds relate,
. . . . . nothing extenuate,
Nor set down aught in malice . . . . . .

LONDON:
JOHN CHURCHILL, NEW BURLINGTON STREET.
MDCCCLVII.

[*The Author reserves the right of translation.*]

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TO

ANDREW SMITH, M.D., F.R.S.,

DIRECTOR-GENERAL, ARMY MEDICAL DEPARTMENT,
ETC. ETC. ETC.

My dear Sir,

It affords me very sincere pleasure to inscribe this volume to you. I consider you have rendered inestimable services to the British Army by the exercise of consummate administrative talents, and by your defence of the merits and competency of the Department of which you are the Chief, under circumstances and at a time when judgment courage and official integrity were all needful for success.

As one of the number of Civil Physicians and Surgeons attached to the Eastern Expedition, I gladly embrace this opportunity of expressing my gratitude for the care you took that our position should be useful and honourable while we were engaged in military duties.

I desire, likewise to thank you, in this form, for many acts of personal kindness towards myself, more particularly for your selection of me for a service that enabled me to collect materials for the present slight contribution to the medical literature of the Crimean War.

I remain, with much esteem,

Most sincerely yours,

Charles Bryce.

Old Steine, Brighton,
September, 1857.

CONTENTS.

PAGE

INTRODUCTION 1

CHAPTER I.

SANITARY STATE OF ENGLISH AND FRENCH CAMPS 5

CHAPTER II.

ENGLISH AND FRENCH HOSPITALS ON THE BOSPHORUS. . . . 36

CHAPTER III.

MILITARY EFFECTIVENESS OF ENGLISH AND FRENCH ARMIES AT THE CLOSE OF THE WAR 74

CHAPTER IV.

OFFICIAL REPORT ON THE TYPHUS FEVER OF THE FRENCH CAMP AND HOSPITALS 96

NOTE

ON THE HOSPITAL MEANS AND SANITARY STATE OF THE TURKISH AND SARDINIAN ARMIES 122

INTRODUCTION.

THE war in the Crimea was equally rich in its teachings of medical as of military science. The service encountered was not more unforeseen by any one of the allied generals commanding the expedition, than were the consequent diseases and wounds unknown to the greater number of its surgeons. By the former, novel modes and means of attack and defence were then first brought into action with a success which has given them a place in future warfare; by the latter, the art of healing, as taught in the schools, was tested with a roughness of experimental proof, that forced medicine and surgery into untried resources. Above all, a field, alike vast and instructive, was offered for the observation of the conditions which materially affect the sanitary state of armies, and, consequently, their belligerent power. And yet, while for avowed purposes of improvement in the profession of arms, the strategic operations of the campaign have been largely discussed in England and France, there have been only vague allusions made in either country to the influence which the health of the troops had in determining the conduct and issue of the war. Every soldier admits that the destiny of the enterprise, in a military sense, depended mainly on the health of the troops engaged; but no medical man has yet tried to fix the

manner and proportion in which this condition contributed to the Paris conferences. Official reticence on this point is pardonable. Courtesy on the one part, and policy on the other, withholds authoritative information respecting the necessity of peace to either of the allied states, in consequence of the loss of combatants from camp-sickness. Still military hygiène, in other words, the medical facts of the war, regarded in their relation to the pacific issue of hostilities, exercised an influence which has hitherto not been sufficiently acknowledged either by the diplomatist or physician.

The present contribution to medical literature is an attempt to direct attention to, and in some degree supply, this defect. By instituting a full comparison of the sanitary state of the English and French armies at the close of the war, we can best measure the amount and estimate the causes of any differences which preexisted in their respective warlike capabilities.

The materials for this analysis and comparison are, for the most part, the produce of personal observations and extracts from my official reports. In asking leave to make use of these materials in their present shape, I do so in the belief that the publication might still interest the profession, and would, at all events, reveal facts and figures which bear on political questions hitherto discussed with very imperfect information. It is, moreover, a duty and a privilege to vindicate the Medical Department of the English army from the wrong done it throughout the war by popular comparisons with French military surgeons and hospital management, drawn always to the dispraise of the former.

I may be permitted to premise, that opportunities for

accurate observation on the subject in hand were insured to me, and the duty imposed, by virtue of my medical appointment in the East. It will be recollected that one explanation by the *Times* of the mortality in the Scutari hospitals throughout the winter of 1854-55 was the unsuitableness of the remedial measures employed by the English surgeons. Not only was an adverse comparison drawn between the results of their treatment and that of the Constantinople practitioners, but it was likewise alleged that the French hospitals on the Bosphorus exhibited more favourable sick returns. The Director-General, Army Medical Department, Dr. Andrew Smith, took instant steps to put the justice of these comparisons to the proof of experience. He did me the distinguished honour to offer me medical charge of one hundred beds at Scutari for the express purpose of judging and reporting on the applicability of the local mode of medication to the Crimean sick; for which service a former residence in Turkey and my published writings were held some qualification.

A spirit of inquiry and the interests of medical science led me, in the autumn of 1855, to visit the Crimea and look at our own and Allies' sick establishments. In the spring of 1856, the patients in my wards being reduced to half-a-dozen Land Transport convalescents, I availed myself of the invitation of M. Baudens, *Médecin-Inspecteur*, to visit the French hospitals on the Bosphorus. To him and my respected friend M. Thomas, *Médecin-en-chef*, I have to express my acknowledgments for the facilities afforded me to continue my researches into sanative measures. Lastly, Dr. Linton, C.B., Principal Medical Officer, Scutari, thought me not unworthy to be

joined to the gallant band of English surgeons who volunteered to do duty in the French hospitals when suffering from inadequate medical attendance, by reason of the amount and nature of the sickness prevailing, and the consequent numerous deaths of their own surgeons. A month's direct care of patients made me practically acquainted with the sick regulations of the French service.

I may be excused one other prefatory remark. The late appearance of this work has depended only in part on personal convenience. It is considered the act of publication cannot now awaken any international sensitiveness; while the knowledge to be conveyed may prove useful in a region little accessible to writings obnoxious to the possible charge of disloyalty or unpatriotism.*

Before concluding these introductory words, I desire to offer my respectful thanks to Sir Henry K. Storks, K.C.B., Military Commandant on the Bosphorus, and to my late medical chiefs and colleagues, under and with whom I had the privilege of prosecuting these investigations. To their indulgence and confidence I am indebted for many months of most valuable professional intercourse, of which I trust they may trace some evidence in the following pages. Nevertheless, they will not be read by one whose gratification would have been my highest reward.

> Heu; miserande puer! si qua fata aspera rumpas
> Tu Marcellus eris.

---

* "Order the generals of division to send returns of their losses, and the surgeons' reports on the health of the troops. It is intolerable that false accounts should be sent, and the truth disguised."—Napoleon I., Sept. 2, 1812, *Mémoires du Roi Joseph.*

CHAPTER I.

SANITARY STATE OF ENGLISH AND FRENCH CAMPS.

It is my intention in the following pages to avoid passing judgment on English and French military organization, except so far as this relates to or affects medical administration. I shall also be silent in respect of any of the remoter causes which led to the sad sufferings of the soldiery of both armies, unless where these were sources of direct injury to the health of the troops.

This forbearance is due not more to the specialty of my subject than to the personal and professional controversy still raging on the proportion of blame which individuals and departments ought to share in the production of the above evils. At the same time, I take the liberty to express, once for all, my opinion that it has not been proven that the dread privations experienced and enormous services imposed on the English army at the outset of the campaign can in justice be imputed exclusively to administrative faults and failings. The original inadequacy of our preparations for a sudden and great war—the timid adherence of heads of departments to the "regulations" of the service, when self-reliance, prompt decision, and independent action for

unprovided emergencies were imperatively demanded, had, I believe, a larger part in our misfortunes than the general incapacity of the executive. Again, little has been said of the unusual inclemency of the winter, the extraordinary nature of the soil invaded, the disasters of the tempest of November, as extenuating military errors of judgment: nothing of higher influences controlling events. And herein a serious error, I think, of commentators on the campaign.

Moreover, it is now generally credited, and has never been officially denied, that the Allies landed in the Crimea with the design and expectation of taking Sebastopol by a *coup-de-main;* and, if recent revelations deserve faith, the achievement was perfectly practicable, and the reason of its not being ventured was from no lack of English daring. This circumstance ought surely to have some weight in estimating and apportioning censure for subsequent measures; and, if it had been earlier suspected or received, might have spared the people at home from great pain felt, and would have mitigated the condemnation uttered in disparaging comparisons with the supposed immunity of our Allies from the hardships and losses which befel our troops.

But, instead of any allowance for contingencies, the sufferings of the British army and the deaths from sickness during the first five months of the war were, on the instant, proclaimed with an ambitious fulness of details and severity of language that filled England with mingled grief and indignation. France, on the contrary, in camp and country alike, enforced silence of speech and disuse of pens, other than official, concerning the real state of her army. Hence her comparative

exemption, at the commencement of the campaign, from many of the evils and hardships endured by the English troops was throughout Europe placed to the credit of her superior military system. Few persons reflected that the present expedition was, to the majority of the French troops, merely a change of territory from Algeria to the Crimea, whither they transported their customary fighting weapons, habits, and provisions, for the conduct of the war; and fewer critics calculated the relation which service bore to strength, work to numbers, in the respective hosts. The French medical organization was especially recommended for our instant adoption, on the assumption of its superiority, because fewer deaths were reported in their ranks. And yet the reasonableness of this assumption and the fallacy of the inference are not less doubtful than was the advantage conferred on the French army and the Emperor by concealment of the fact that the sanitary state of his troops soon became the very reverse of what was then represented of it. It may, possibly, be still a moot question with some whether the clamorous out-speaking of the English press, or the imposed taciturnity of the French journals, better promoted the general well-being of the two armies in the earlier and later stages of the war. But I venture to think that, after reading the disclosures about to be made, no one will seek to aggravate our imputed medical executive faults and administrative defects on the supposition that a frightful mortality from diseases was exclusively the lot of the British army. It is not my province, nor do I presume to be the apologist of the undeniable difficulties experienced by the English regimental surgeon in the winter of 1854, from defective

supplies of drugs and sick comforts, the consequence of stores missent or improperly stowed on board ship. There is no doubt of the fact that the Medical Department shared in the general unpreparedness and miscalculations that depended upon hurried action following unripe deliberations, confused plans, and divergent aims. But to the failure to make this department the scapegoat for all the sins of all the chiefs and councils at home and abroad, has succeeded the conviction that no branch of the service, military or civil, displayed higher intelligence and heroism, or answered calls of duty more satisfactorily, than did the medical staff of the British army, from the Director-General to the acting assistant-surgeon. How urgent these calls, how self-sacrificing was medical devotion to duty, are proved by the fact that a larger proportion of surgeons lost their lives during the war than of any other officers throughout the army.

I proceed now to offer proofs of the accuracy of the foregoing general statements, and furnish *data* whereby others may test their value and assist me in their application to the subject under discussion.

On application, the Director-General, Army and Ordnance Medical Department, has most obligingly communicated to me, for this purpose, the subjoined returns, here first published,—a circumstance not more noticeable for its personal courtesy than as showing the absence of all official seerecy as regards the second most sorrowful consequence of the war, the time and terms of peace being the first:—

Abstract of the number of non-commissioned officers and men sent to the East during the late war, with the deaths from wounds and diseases respectively; also, the number invalided to England.

	Total number sent to the East.	Died		Number invalided.	Killed in action.
		From wounds and mechanical injuries.	From disease and all other causes.		
Non-commissioned officers and men of cavalry, foot-guards, infantry, and ordnance, exclusive of Land Transport Corps and other non-combatants.	93,959	1761*	16,298*	12,903	2658†

These numbers may be cast into another form for sake of uniformity with the French return of casualties which follows. Thus,—

The total strength of the British force of soldiers, exclusive of officers, originally embarked for the East, and added during progress of the war, up to date of evacuation of Crimea		93,959
Reduced by deaths, killed in action, and died of wounds	4,446	
Ditto, from disease	16,298	
Ditto, by invaliding	12,903	
		33,647
Remaining effective strength of Crimean army, non-combatants exclusive, at close of war . .		60,312

* The "killed in action" not included in these numbers.

† These numbers are supplied from a parliamentary return quoted in the *United Service Magazine*.

Ratio of deaths to strength, exclusive of killed in action	19·22	per cent.
Ratio of deaths to strength, inclusive of killed in action	22·7	„
Ratio invalided to strength	17·34	„
Total *hors de combat* at close of war	35·82	„
Total force restored to England and Colonies	64·18	„

In the *Moniteur* of the 23rd October last there is published, by command of the Emperor, to whom it was addressed, "*un rapport remarquable*" comprising the "personnel, matériel, et moyens maritimes" of the war, prepared by Marshal Vaillant. This document states—

The effective of the French troops embarked for the East (envois de troupes)		309,268
Reduced by deaths from all causes, killed in action included (total des pertes de l'armée constatés)	69,229	
Invalided singly, and allowed leave on furlough, during the war	65,069	
Recalled during war	20,390	
Unaccounted for (disparus)	1,781	
Total number returned to France and Algiers		227,135
Ditto, after signature of peace		141,676

SUMMARY.

Taken to the East	309,268
Lost there	69,299
	240,039
Re-entered France and Algeria	227,135
*Difference**	12,904

* This *item* disturbs all calculations. Its meaning in a military return and sense will be discussed later.

Ratio of deaths and *disparus* to strength . . .	22·99	per cent.
„ of invalids, as above, to strength	21·4	„
„ *hors de combat* (*difference* exclusive) . . .	44·3	„
„ of troops in the East at close of war ("*l'effectif de l'armée*,"* 30 mars, 146,240)	47·28	„

The reader will observe that these two returns do not furnish perfectly correlative *data* for statistic comparison. Both embrace the whole period from the sailing of the allied expedition to that of the withdrawal of the Crimean armies, and the removal of the sick from Turkey. They equally show the reductions caused by death and sickness during the campaign, and the numbers returned as effective at the close of the war. Moreover, by placing the numbers quoted in closer juxtaposition, we find the following per-centage results:—

Armies.	Diminution of strength		Hors de combat.	Troops in the East at close of war.
	By deaths.	Invaliding.		
English . .	22·7	17·34	35·82	64·18
French . .	22·99	21·4	44·3	47·28

But these differences, though possessing some numerical value, neither embrace nor exhaust the elements of comparison which the returns furnish. We shall subject the statements afterwards to closer inspection, and indicate wherein they tend to erroneous conclusions. In the meantime it is convenient to introduce in this place another official paper, for which I am likewise indebted to the enlightened liberality of Dr. Andrew Smith.

* Be it observed that under this designation the Minister of War includes all the sick in the Crimea and in the hospitals at Constantinople on 30th March, of whom 4564 died during the evacuation.

Return showing the total number of men remaining in hospitals in the Crimea and Turkey on the last day of December, 1855, *and of January, February, and March,* 1856, *with the total number of deaths during these months.*

Date.	Strength.	Sick and wounded remaining		Period.	Total died		Remarks.
		In regimental and general hospitals in the Crimea.	In the hospitals on the Bosphorus, Dardanelles, &c.		In the hospitals in the Crimea.	In the hospitals on the Bosphorus, Dardanelles, &c.	Ratio for four months.
On 31st Dec. 1855	59,045	3326	1490	From 1st to 31st Dec. 1855	141	60	Sick to strength, 6·53 per cent.
„ 31st Jan. 1856	57,648	2479	1320	„ 1st to 31st Jan. 1856	81	43	
„ 29th Feb. „	57,788	2528	1051	„ 1st to 29th Feb. „	58	24	
„ 31st March „	62,803	2288	1032	„ 1st to 31st March „	63	22	Deaths to sick, 12·71 per cent.
		2655	1223		343	149	Deaths to strength, ·08 per cent.
Average . . .	59,321	Totals, 3878		Total, 122 days	Totals, 492		

Average deaths daily, camp . . 2·81 per cent.
„ „ „ hospitals . 1·22 „

The preceding return deserves especial attention, both for its authentic details and for future reference to the condition of the French army at the same period.

Further, most valuable information bearing on the sanitary state of the English camp is supplied by Inspector-General Sir John Hall's weekly reports to the Commander-in-chief of the army in the Crimea. These reports are so full of medical meaning and military information, that, when first seen in print, our incredulous French colleagues looked on them as rather a clever contrivance to mystify detractors and spies.* Thus Dr. Hall made known that, in the second week of October, out of a body of 25,172 soldiers, the proportion of sick to well, including wounded, was little over eight in a hundred, and of deaths to strength, eight in ten thousand. On the same authority we find that in the whole of January the deaths were one hundred and twenty-four in all the hospitals, regimental and general, at the front and on the Bosphorus: and of the week ending the 15th of March it is recorded that, assuming the strength of the forces in the East, including Land Transport, Army Works, and Medical Staff Corps, at 70,409 men, the sick under treatment

* The profession will be gratified to know that there is in course of preparation for the press, at the Army Medical Department, a very elaborate exposition of the medical and surgical events of the Eastern campaign. I believe the work will prove equally acceptable to the professional reader for the fulness and variety of its information, and to the military statistician for the authenticity of its details. The first publication of the kind in any country, it will rightly place the knowledge, skill, and labours of the Army Medical Staff on a footing of equality at least with those of any other branch of the service.

were 3747, and the cases ending fatally nineteen. In the Crimea there were only sixty-three deaths for that month. The same remarkable exemption from disease prevailed throughout the British army up to the date of quitting the Russian soil. In one week of April, only five deaths occurred in 72,000 troops in position there, and twenty two in all hospital establishments,—viz., at the front, Kertch, Scutari, Renkioi, Smyrna. The same distinguished authority vouches for the statement that, out of an effective strength averaging 59,413 troops before Sebastopol, for the three first months of last year, the total deaths were only 202. Well might Dr. Hall affirm that the mortality thus reported was under that of the household cavalry in England. It is scarcely necessary to add, in connexion with these facts, that throughout the winter of 1855-56 the whole army was warmly clad, comfortably hutted or tented, well rationed, and the duties and fatigues of the soldiers not more than were proper for bodily recreation.

Unhappily no one can reproduce these incidents with feelings of unmixed exultation. The memory *will* go back to the condition of the British camp before Sebastopol in January of the preceding year. Then an army, numbering upwards of 23,000 soldiers on its muster-rolls, had more than one-half its strength in hospital, and the deaths from disease for that period were 388. Then every man present under arms had to perform his own duty and that of a sick comrade in addition. The uniform testimony of the military surgeons is, that it was neither the cold nor the privations of the first winter which were so fatal to the men, but the overwork in proportion to the quantity, quality, and irregularity

of the food supplied for their support. It was notorious throughout the camp at the time, that the trench work and trench duty performed by the English were three-fold in amount to what were allotted to the French soldier.

And herein lies the true explanation of the extra-ordinary difference in the sanitary state of our troops at the two periods. Whereas, the first winter, the army was exhausted by this overwork, and deficient in every-thing to support it but the patience, bravery, and discipline of the men; in the second, the same army was in every respect in a condition not equalled by any number of troops in any part of the world. Had its sufferings resembled those at the outset of the struggle, I believe Russia would have exacted even better terms than she got as the price of peace. To the Medical Staff is now justly attributed a due share in this amelioration, in spite of the attempts made in high quarters, at one time, to conceal home administrative mismanagement, by imputing the devastating sickness in the camp to professional ignorance of the ordinary rules of military hygiène. And be it further noted, that improvement in the health and condition of the soldiers in the field had begun, and the confusion and crowding in the hospitals had ceased before the presence of any adventitious commission could have influenced the changes. Dates of official correspondence just published show that the Director-General had addressed instructions respecting the sanitary state of the camp as early as January, and that judicious measures for its maintenance were in full activity by the whole Medical Staff in March.

To return to our more immediate subject.

It hardly need be told here that no French authority has published similar reports, giving the weekly aggregate of all casualties, the ratio of sick to healthy and of deaths to strength; stating, also, the leading classes of diseases under hospital treatment. We are, therefore, considerably at fault for official *data* of the kind. The report by Marshal Vaillant, quoted, contains the only authoritative figures communicated even to the medical profession in France on this most important page of the war. In the absence of elements for close comparison, and guided to a judgment on the general sanitary condition of the French army solely by the summary presented above, we should conclude that the difference in the proportionate losses by death of the two armies was insignificant, but still in favour of our own. It might be supposed that if, on the one hand, the British army were, indeed, the healthier of the two at the latter stage of the expedition; on the other, its losses in the first winter's campaign far surpassed those of the French, and fully reduced any subsequent inequality. For myself, I very much doubt, founding my incredulity on high medical testimony, whether the rate of mortality from disease alone was ever considerably below that of the British for three months together. But, be this as it may, it is most certain that, for seven months prior to the evacuation of the Crimea, the deaths from disease in the French camp and in the hospitals on the Bosphorus were unparalleled for number and proportion by any other troops of the allied armies.

We shall afterwards have occasion to enlarge on this general question. In the meantime, I have to return

to the French War Minister's report. And in order that no disingenuous use be made of his statement, I shall reprint the part which concerns the *personnel* of the expedition. Its perusal imposed on me the present duty.

Mouvement des troupes.

DÉPART.

Nombre des hommes embarqués en France			257,324
Nombre des hommes embarqués en Algérie			47,983
Nombre des hommes embarqués en Corse			1,998
Nombre des hommes embarqués en Italie (division d'occupation)			1,963
Total des envois de troupes			309,268

Pertes éprouvées par l'armée.

Le chiffre des décès, à la date du 30 mars 1856, s'élevait à			62,492
Depuis cette époque jusqu'à la fin de l'évacuation (période du typhus et du choléra, il est mort 4,564 hommes), ci			4,564
Total des décès constatés			67,056
Le nombre des hommes disparus qu'il y a lieu de porter au compte des pertes de l'armée est de			1,781
Militaires qui ont péri dans le naufrage de *la Semillante*			392
Total des pertes de l'armée			69,229

RETOUR.

Militaires rentrés isolément en convalescence ou en congé			65,069
L'effectif de l'armée d'Orient, au 30 mars 1856, était de 146,240 hommes, ci		146,240	
Savoir: en Crimée	120,476		
en Turquie:		146,240	
Sous les armes 15,316 / Aux hôpitaux 10,448	25,764		
Le chiffre des décès survenus pendant l'évacuation est, ainsi qu'on l'a vu plus haut, de		4,564	
Il est donc revenu d'Orient depuis la signature de la paix		141,676	141,676
Corps rappelés de l'armée avant la signature de la paix			20,390
Total des hommes revenus de l'armée			227,135

RÉSUMÉ.

On a transporté en Orient	309,268
Les pertes de l'armée sont de	69,229
	240,039
Il est revenu d'Orient en France et en Algérie	227,135
Différence	12,904

Dans ce dernier chiffre sont compris, d'une part, tous les individus qui, sans être liés au drapeau, sont partis avec l'armée ou à sa suite, et, d'autre part, les officiers et soldats qui ont été embarqués plusieurs fois pour l'Orient. Ce sont des militaires rentrés en France en convalescence ou en congé et qui sont retournés à l'armée après leur rétablissement ou l'expiration de leur congé: ils figurent au moins deux fois dans le chiffre total des hommes embarqués.

The military critic needs not to have pointed out the very equivocal terms employed in this tabular statement. It is for others that I venture to indicate certain anomalies and misleading phrases. (1.) By effective strength (l'effectiv) is usually meant soldiers fit for immediate active service. But in this category are numbered the ambulance sick in the Crimea on the 30th March, who, according to M. Baudens,* amounted to 19,648 in the preceding month; besides the above 10,448 under treatment in hospitals on the Bosphorus on the very day when the report calls them effectives. By this means the War Minister augments his numerical belligerent force by upwards of thirty thousand nominally effective troops; and so makes it appear that 73·44 per cent. of the Crimean army was restored to France after the signature of peace in a fit condition to have continued

* Souvenirs d'une Mission Médicale à l'Armée d'Orient. Par M. Baudens, Médecin-Inspecteur. *Revue des deux Mondes, livraison de 1er Juin* 1857.

active hostilities:—a demonstrable fallacy. (2.) Fifteen thousand troops collected in the regimental sick depôts outside Constantinople and elsewhere, are similarly designated and registered. (3.) The ministerial reporter allows himself a margin of twelve thousand four hundred men not specifically accounted for. With regard to this rather considerable *item*, being, in the phraseology of the report, *une différence entre les envois de troupes et des hommes revenus de l'armée*, it is obscurely explained that the number is made up in part of persons subsequently disrated as soldiers, though so classed and counted on embarkation; and in part of others who, returning from and proceeding to the East oftener than once, were in consequence reckoned as multiples of a single individual, and thus to an indefinite degree enhancing the paper strength of the army. Military readers may probably extract a more professional meaning than the writer is able to do out of the original text, for which purpose the passage is given. They will please to remark that in the "*départ*" of the report the total are called "*troupes*," in the "*retour*," "*hommes*." Ought the "*différence*" to go to the reduction of the former sum, and consequent proportionate increment of losses by death and otherwise? or is it simply a novel mode of balancing the debit and credit sides of an imperial expenditure of which the particulars cannot be produced?—a device for concealing the disappearance from the muster-roll of any number of persons not otherwise accounted for?—in which category French surgeons have assured me, were many hundreds embarked at Kamiesch for hospitals on the Bosphorus, but who found a resting-place mid-channel. M. Baudens declares that,

at one time, two hundred soldiers died daily between the Crimea and Constantinople.* Another strange avowal for a military return is, that seventeen hundred and eighty men have unaccountably disappeared—*disparus.* They are added to the total loss, but no records vouch for the time, place, or manner of their deaths.† Hence is obvious the impossibility of making a really just and useful comparison between the losses by deaths sustained by the two armies respectively—the terms and elements of calculation furnished by each not being equivalent. Moreover, the French War Minister's report does not, except in one instance, distinguish betwixt the deaths, the result of actual fighting, and those from camp diseases alone. This important distinction is made in the English published returns. Again, the latter distinguish the numbers invalided, while the former include under one cipher invalids, convalescents, and *congés* returned to France.

Enough for these obituary records in this place.

It will be remembered that, England and France having declared war against Russia in March, 1854, 25,000 British and 23,000 French soldiers landed on the Crimea in September. Passing over, with a sad, proud retrospect, the purely military events of the first year's campaign, I desire to point attention to the fact that "*the thin red line,*" which tipped the heights of Inkermann in November, 1854, had, in March following, acquired a

* *Opus cit.*

† I am permitted to state, on the authority of the Director-General, Army Medical Department, that of the British expeditionary army not ten soldiers are unaccounted for, at this day.

breadth and solidity that displayed the will and might of England for the continuation of the contest. Losses by death had been amply supplied, local causes of disease totally removed, sufferings from excessive hardships and privations ceased to be, the consequences of incomplete or divided responsibilities corrected, so that, in September, 1855, fifty thousand British troops of all arms were encamped before Sebastopol, and by the end of the year twenty thousand good Mussulmans, under English officers, were at Kertch, both armies surrounded with every possible comfort, abundant food, sufficient shelter, and excellent clothing. Our foreign legions were in course of formation and *en route* for the same destination. It was then and thus England and her soldiery rose to the elevation of conscious strength, expectant triumph, and the old feelings of "pride of place," in the presence of foes and friends alike.

But, conspicuous above all other evidences of the warlike efficiency of the British army was the capital health we have seen that it enjoyed throughout the winter of 1855-56. At the front, the regimental and general hospitals contained so few patients, that Dr. (now Sir John) Hall, Inspector-General, in reply to applications from surgeons to proceed thither for service, stated he had not enough employment for a moiety of those already present. His weekly reports for months had shown that the health of the troops was as good as if encamped on the heaths of England, and that the rate of mortality from all causes was below that of home garrisons, and even of urban populations. On the Bosphorus, Kulalee had been given up in part to Sardinians, and was otherwise occupied by a portion of the German

Legion. Scutari's magnificent hospitals, under the admirable management of Dr. Linton, presented a couple of miles' length of corridors entirely vacated of sick, many wards closed, and those still open had more empty than full beds; while the diseases under treatment had no specialty depending on climate, camp-life, or state of warfare. At Renkioi the medical chief, Dr. Parkes, and staff could only point expectantly to its great capacity and admirable arrangements for the reception of sick.* Medical men abounded so much in excess of all requirements for their own sick, that ten of their number were allowed to volunteer to do duty in the French hospitals on the Bosphorus.

And, more significant still, and illustrative of the great improvement which had been effected in the soldierly *morale* of the British army, was the altered feeling of the sick at Scutari in respect of rejoining their colours. Whereas, in the spring and summer of 1855, men craved to be invalided for England, and to enforce it had recourse to various pitiable contrivances in order to pass a board, now, the care and experience of the surgeons were engaged to moderate the martial ardour of convalescents. Nay, even the sick in the hospital marquee

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* Save for humanity-sake, one could have wished that the requirements of the service had fairly tested the merits of this *civil* hospital on the Dardanelles. In my opinion, nothing which high professional sagacity could devise, and engineering skill accomplish, was left undone to make the establishment perfect of its kind. And I am very sure the mental were not inferior to the material appliances that would have been brought into activity had the opportunity for their exercise offered. I had the pleasure of spending two most instructive days on its inspection.

of the gallant 31st made an attempt to join their colours on one occasion when it became known that the regiment had moved out for an expected general action. Hence it happened that in the spring of 1856 the sympathies of the people of England were not warmer in support of expenditure for war, than was the heart of her soldiers to confront its perils.

Nor was this sentiment confined to those who looked to their swords only for fame and promotion. The rank and file of the army felt that, since the glorious day at Alma, they had not had a fair field and fitting chance to measure their prowess against the enemy in rivalry with France. Yet personal considerations alone did not bias all judgments in favour of a prosecution of the war. The man-at-arms saw in the very resistance he was encountering at Sebastopol that Russia was possessed of very formidable resources for attack and defence; and he felt that it behoved England to seize the present opportunity to cripple these resources, and, by so doing, thwart a policy fraught with peril not only to the interests of Turkey, but to the repose of Europe. The civilian comprehended at a glance how much the fall of Kars would counterbalance, to the eyes and in the understandings of all Eastern people, from the Euphrates to the Indus, the losses experienced by the Russians in the Crimea, however important these might be represented to Western nations.

And yet, at the height of these English hopes, resolves, and reasonings, and in spite of complete preparedness to enter upon a third year's campaign, a suspension of hostilities was covenanted in February; in March peace was concluded, and in England uproariously

proclaimed, with the port of Sebastopol still in possession of the enemy, with his power somewhat broken, it may be, in the Black Sea, but by no means impaired by any material concession made as the price of peace;—while the traditional policy of Russia remained uncompromised within, unfettered beyond her own dominions; and the *prestige* of her power was placed higher than ever throughout Asia.

Now, leaving to those whom it may concern to penetrate and reveal, some twenty or fifty years hence, the mysticism of diplomatic action by which England was brought to acquiesce in a result seemingly so little advantageous to her national interests, and, avowedly, so incommensurate with her original aims, I think medical men at least will see in what follows a cause and a reason why the Emperor of the French, in his own interests, contented himself with the Malakhoff exploit as a plea for peace, and full equivalent for the costs of the war. Without undervaluing the considerable concurrent share in this result of the pecuniary position in which France found herself after two years' extraordinary war charges, I think it a mistake to exalt this pressure on the country into a paramount or immediate cause influencing the Emperor to peace at the time. For myself, while I do not disparage the financial bearings of the question—peace or war—when ostensibly proffered by Austria for Imperial choice, I believe that, independent of and above these and all other state considerations present to his mind, and deciding his councils, was the knowledge which he had obtained within the preceding six months—*first*, that the French army had become in numbers and discipline, *matériel*, resources,

and moral force inferior to that of England—*second*, that an exhaustive process was in activity, and could not be stayed, which put in jeopardy its military *status* among the Allies—*third*, that large *conscriptions* would excite murmurs and memories among a peasantry not rewarded for sacrifices of kindred, as under the first Napoleon, by daily *bulletins* of military glory and conquered territory.

On the shores of the Bosphorus I reasoned myself to these conclusions: since then I have again examined the grounds on which they are founded. Let me endeavour to make their truth and force equally evident to those who do me the honour to accompany me—*first*, in a medical visit to the French Crimean *ambulances* in the winter of 1855; *second*, on a professional inspection of, and residence in, the French hospitals on the Bosphorus in February and March, 1856; *third*, to an examination of the specific diseases which prevailed in the one and the other at those periods.

1. French Ambulance Service in the Crimea.—It belongs to the subject, and may interest some unmilitary readers for me to state briefly a few distinguishing points in the organization and duties of the Medical Staff of the English and French armies in the field.

In the English army, the regimental service for the sick is held of chiefest importance; and its constitution and functions are undeniably equal to all imposed duties. Under almost every circumstance the surgeon obtains and keeps charge of the sick and wounded of his regiment. He is responsible for their treatment, of which he reports directly to his own department. To him also belongs, in the first instance, to recommend patients

for change of climate, for invaliding, and so forth. According to French military administration, the duties of the regimental surgeon are altogether subordinate,—in the field to the *ambulance* service,—in garrison to the hospital staff. The regimental surgeon, although of advanced rank, *chirurgien major*, examines the soldier of his corps who reports himself sick only to determine whether the illness is feigned or slight, in which case he is dealt with by the surgeon. But, if the treatment be likely to require more than a couple of days' attendance, the applicant is at once sent elsewhere to obtain it. On the field, after an engagement, his professional duties are restricted *aux premiers secours*, which rendered, the wounded of his regiment pass entirely from under his observation.

For the English army in the Crimea there were provided—1. A field hospital within the lines; 2. A general hospital at Balaklava; 3. Hospitals, or *sanitoria*, in its vicinity. The first, consisting of several large, admirably constructed, well drained, amply furnished huts, with numerous staff surgeons, was designed for the casualties of a great battle, and made use of as auxiliary to the regimental marquees and huts. The others, in like manner, became accessory to similar requirements on the part of the regimental service. Hence, all three may be regarded in the light of *rear* hospitals to an army in active campaign; Scutari establishments on the Bosphorus holding the place of its *general* hospital.

In the French service, on the contrary, there is no regimental hospital provision for the continuous treatment of the sick or wounded. *Les hôpitaux ambulans* occupy the first place in its medical organization. Every

corps d'armée has its separate service of the kind. *L'hôpital ambulant* accompanies its movements, and on the efficiency of this army attendant mainly depends the welfare of the troops. Hence the number and senior rank of the staff surgeons appointed in charge, and entirely devoted to the bed-side treatment of patients.

With our army before Sebastopol the field and rear hospitals were, consequently, only useful adjuncts to the regimental ones, of casual requirement, and chiefly supplemental to the Scutari establishment. But, in the French service, general and division hospitals constituted the essential part of its sanative appliances and means—the *ordonnance* ruling that provision of this kind ought to be made for *one-sixth* of the total number composing a belligerent army in an enemy's country.

There is another grand difference betwixt the two medical services to be noted—that, namely, which relates to the military control instrumentally exercised over each respectively. In the English army, as regards the management of the sick, the medical department is immediately under its own authorities, communicates directly with other co-ordinate officials, and possesses a large amount of independent action. The purveyor's staff in especial, and the apothecary department, form an integral and subordinate part of it. Moreover, the chief medical authority of the army is vested in a director-general, an officer who enjoys virtually the undivided patronage of the department, and has the privilege of corresponding directly with the heads of other military departments.

In the French service, the duties of the medical staff are performed under the authority of the War Minister,

delegated either to the military Commander-in-Chief, or to the officers of the *Intendance* (*fonctionnaires de l'intendance militaire*). This is a body and name unknown in the English army. Composed of officers of various grades permanently withdrawn from regimental duties and promotion, and charged with the administrative direction of garrison and field hospital services, it commands the medical staff in all things pertaining to military discipline, enforces observance of the rules, and superintends the duties of "*police*" in the hospitals; which *police* means maintaining regularity in the medical visits, good order among the medical attendants, the orderlies, the sick, and others. The *intendance* also fixes the number of beds and amount of furniture to be put in a ward, appoints or approves of surgeons to particular charges, and removes them at pleasure, signifying the same through the *médecin principal*. And if any medical officer is thereby aggrieved, he must, in the first instance, address his complaint through the *sous-intendant* of his hospital. In a word, as respects military position, and even professional duties, the medical staff hold an inferior relative rank, and are subordinate to the officers of this particular service. Moreover, these exercise the combined functions of the commissariat and purveyor's departments; in the latter capacity contracting for all hospital requirements, and being alone answerable for their proper supply. Lastly, as a distinguishing feature of the two army medical systems, the *corps de pharmaciens* is a perfectly distinct service, little lower in relative rank to the medical staff, and, equally with it, subject to the orders of the *intendance*.

Nor do the attributes of this body embrace only

administrative details. Members of it have a seat in the *Conseil de Santé*, the supreme medical authority of the army, and have a large share in the patronage and power exercised by it. In fact, according to the last published *ordonnance* on this subject (*décret organique du corps de santé de l'armée de terre*, 23 *Mars* 1852), the *médecins-inspecteurs*, who form only a minority of the body, have their functions jealously restricted to the superintendence of the sanitary state of the army, *en ce qui concerne l'art de guérir*, and to a simple recommendation (*un avis consultative*) in respect of the promotion of officers otherwise than by seniority, and their distribution to vacant appointments.*

From this statement of facts may be deduced two just conclusions—one, the thorough dependence of the sanitary state of the French troops in the Crimea on the efficiency of its *ambulance* system; another, the considerable dependence of this efficiency on the intelligence and integrity of the *intendance*.

Let us then look at the actual condition of these hospital structures, and the number and state of their sick,

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* I have been precise and profuse in describing this *intendance* system, both because I claim to vindicate colleagues second to none, with whom I had the honour to serve in the East, for professional knowledge and devotion to the calls of duty, from the suspicion that they were to blame for the acknowledged failure of the ambulance service to uphold the integrity of an army encumbered with sick; and because I have heard the system vaunted for our imitation by parties who had never witnessed its insufficiency, or been told of its operations in a country where every article of consumption had to be bought, and the price paid through this agency.—*L'intendance militaire est généralement connue sous le nom de Jésuits de l'armée.* (MS. letter).

as seen in September and October, 1855—that is, just a twelvemonth after the landing of the allied armies on the Crimea. At this period, there were three principal stations for them: one, the largest, on the valley near Kamiesch harbour; a lesser, on the plateau overlooking Inkermann, a position then guarded by twenty thousand French troops, though held by as many hundred English on the day which gives the place celebrity; the smallest, at the *quartier général.* In these three localities there were severally formed from fourteen to eight groups of *hôpitaux ambulans,* each group consisting of from fifty to thirty wooden huts, and twenty to fifteen tents; the former designed to contain twenty, the latter eight patients, though these numbers were often exceeded. Thus, altogether, accommodation for twenty-eight thousand sick soldiers was provided and required at the time specified.

But this accommodation, together with the constant large evacuations for the Bosphorus, did not equal the demands of the army at a later period. I have it on most trustworthy authority that, in the months of December, January, and February, following my visit, the daily average of sick treated in the fourteen hospital divisions at Kamiesch alone exceeded fourteen thousand; and that during these three months the aggregate loss by deaths was certainly eighteen thousand—that is, from fifteen to twenty a day in each of the fourteen divisions described above. Other than medical authority augments this mortality by one-fourth.

I reserve for a future and fitter chapter full details concerning the sanitary state of the French camp generally, and the internal condition of the ambulance huts—

the one and the other contributing equally to the magnitude and certainty of these fatal results. Suffice it for the present to notify that the cases admitted into hospital were typhus, scurvy, dysentery, hospital gangrene; and that filth and destitution of all kinds, overcrowding of sick, neglected ventilation, thoroughly defeated all curative measures. Added to which natural causes of death was the deplorable deficiency of medical attendance. An ambulance containing eight or ten hundred persons had never more than five or six surgeons, all *médecins traitans* from necessity; but it frequently happened that, in consequence of their large decrease by death and illness, one surgeon had to take a double charge—that is, to prescribe medicine and order food *en cahier*, on personal inspection, at least once a day for four hundred cases of acute disease; an amount of mental and physical labour undergone in such localities that killed one-half the medical staff in the Crimea, and forced the retirement of many more. In one ambulance service at Kamiesch, of an original appointment of ten surgeons, six died and four outlived attacks of fever within four months. For myself, I can truly state that,

> By many a death-bed I have been,
> And many a sinner's parting scene,—

but never in my professional experience did I witness such *hopeless medicine*, or feel myself so close to the destroying angel, as within the precincts of these wooden buildings at Kamiesch.

I am not in possession of equally authentic *data* respecting the two other principal ambulance stations. But knowing that the hospitals at Kamiesch served for

about one-third of the whole French army, that the causes of disease were general, and the *ratio* of deaths resulting was uniform—knowing, further, that the numerical strength of that army was strenuously maintained by drafts during the last three months of 1855, and the mortality was only less than that of the first quarter of 1856,—we are forced to make an approximate addition to the above of twenty-five thousand deaths, chiefly from disease.*

But the French army did not escape scathless from the first winter, so calamitous to the English. On the contrary it is acknowledged that the losses, first in Bulgaria, and afterwards in the Crimea, from cholera, were very large. The former is estimated by M. Baudens at six thousand, or half of the expeditionary force that marched into the Dobrudscha under General Canrobert. Moreover, the French army bore a share of the Alma and Inkermann fights; also, the chief part of the Tchernaya combat; and it carried the Mamelon and Malakhoff after formidable trench advances. No page has yet published the whole truth in respect to the last of these conquests. All known is that the achievement was as memorable for prodigal sacrifice of life as for military daring. That army would be the first to exclaim against a smaller proportionate loss of killed in

* I have the testimony of several French medical officers, who, for the sake of science and humanity, besought me to make known the truth with regard to the mortality in the ambulance service. Comparing the details of each narrator's personal experience, and employing in every instance the lesser of two or more numbers given for an average, I am sure of the moderation of my statement respecting Kamiesch.

action and died of wounds than what befel the English force throughout the war. By such computation nearly fifteen thousand are added to the above sum of deaths. Then, the deaths at the French hospitals on the Bosphorus form another considerable increment. It is in my power, as it will be my duty afterwards to prove, that fourteen thousand men sank under disease in these hospitals alone in four months—December, 1855, January, February, March, 1856. And I have read a return which made the burials from them during the whole period of their occupation exceed thirty-two thousand.

It would most assuredly be more satisfactory to reader and writer to substitute positive numbers for these approximate ones; but they are unobtainable in any published document. Even M. Baudens does not support by official references his summary of the casualties of the war. I do not imagine this omission is owing to politic reserve on his part. I ascribe it rather to the circumstance that the Medical Department of the French army is not supposed to preserve any records of hospital or field obituary statistics. Hence, notwithstanding his supreme rank and particular mission to the East, M. Baudens could only obtain the collective numbers from the *Intendance Militaire* or *Conseil de Santé* as a favour; sources of information evidently not resorted to by him. Accordingly, in his publication he estimates the total hospital mortality, in round numbers, at 63,000,—namely, 31,000 in the Crimea, and 32,000 at Constantinople. This is exclusive of killed in action, which, proportioned to the like loss by the British, will add 8748 for this *item;* and, also, exclusive of the soldiers who died on board ship on their passage to the Bosphorus, which

mortality M. Baudens puts down at two hundred daily during the height of the typhus endemic.

A scrupulous collation of published and private *data* justifies me in submitting as the lowest summary of French losses for—

Deaths—killed in action		8,750*
„	ambulance service, from wounds and disease	31,000†
„	Constantinople hospitals	32,000†
„	Dobrudscha expedition	6,000†
„	on passage from Crimea to Constantinople	7,500‡
„	Gallipoli, Varna, and elsewhere	3,000
„	of invalids on passage from Turkey to France; and of sick and invalids, ditto, on evacuation of Crimea	5,000§
		93,250

And yet how are we to reconcile the veracity or verisimilitude of these numbers with the statement addressed by Marshal Vaillant to the Emperor himself, and by the latter to the French people? The above figures sum over 93,000 deaths; but the War Minister's report vouches for restoring to France and Algiers the expeditionary army reduced by only 67,000 known deaths (*décès constatés*).

Marshal Vaillant certifies the presence of an effective force of 146,240 troops in the East on 30th March. Where were they, then, on the 17th April following? It will be remembered that on that day the allied armies were paraded for the information of General Lüders, and

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* Proportional to English.

† Baudens, *op. cit.*

‡ Say, 200 (Baudens) for 25 days, and half the total so produced for the remaining period.

§ Being ten per cent. of former class, and fifteen of latter.

to signalize the conclusion of peace. With every possible effort at military and diplomatic display on that occasion, the French Commander-in-Chief placed in review order a force variously estimated at from 35,000 to 40,000 troops of all arms. The English showed 37,400 soldiers, —infantry for the most part, the cavalry being at Scutari— and not a man taken from ordinary camp duties. Where, then, we may be permitted to ask, is to be looked for the bulk of the effective force of 146,240, stated (p. 17) by Marshal Vaillant as in existence on 30th March? Not certainly in the hospitals in Turkey, for they, when most crowded, did not accommodate more than 25,000 sick;— M. Baudens places not one-half this number in them in April; M. Vaillant 10,448 on 30th March (p. 17);—nor among the convalescents and the regimental depôts on the Bosphorus, composed of men drafted from hospital, and fixed at 15,316 (p. 17). The detachment at Eupatoria amounted to 12,000 at most: and suppose we estimate the ambulance sick in the Crimea at the time as equal to the hospital sick elsewhere, and deduct other 10,500 under this head, we shall have a gross reduction of 48,000, leaving nearly one hundred thousand men-at-arms fit for duty,—available for strategic movements at the above date.

Hence it follows that either the effective force of the French army is overstated by the War Minister at 146,240 soldiers, on the 30th March, or that no military eye of the English and Russian Quartermaster-General's staffs was skilled to count one-half its numbers on the 17th April: and hence, too, the demonstrated fallacy of the Imperial report to the French nation respecting these particulars of the "*personnel*" of the Russian war.

CHAPTER II.

ENGLISH AND FRENCH HOSPITALS ON THE BOSPHORUS.

THE belligerent strength of an army may be not less surely judged of by an inspection of its general hospitals in the rear, than of its paraded battalions before the enemy. Let the practised eye of the surgeon only glance at the state of the wards, note the proportion of occupied to vacant beds, mark the character of the prevailing diseases, observe the general appearance of the convalescents, and the Minister for War may rely on his sagacity to be rightly informed with respect to the probable ratio of deaths, of invalids unfit for further service, and of convalescents soon to rejoin their colours—proportions and particulars bearing importantly on the effective field force to be maintained. It is told of Lord Raglan, that it was in scrutinizing the weekly sick returns from Scutari, in the first winter, he complained how rapidly his army was melting from before him. I have not presumed to ask for a copy of those returns: they may probably be reproduced in the forthcoming Medical Department publication. But I am enabled to give an example and illustration of their military significance.

(1.) *Return of sick remaining, admitted, and discharged, at Scutar Hospitals, for the weeks ending 29th February and 7th March,* 1855.

Hospitals.	Remaining 22nd Feb.	Since admitted.	Discharged.		Remaining 29th Feb.
			Invalided, and to duty.	Died.	
Scutari . .	4165	1895	2139	1027	2895
Kulalee .	434	795	65	302	861
Totals . .	4599	2690	2204	1329	3756

Hospitals.	Remaining 29th Feb,	Since admitted.	Discharged.			Remaining 7th March.
			To duty.	Invalided.	Died.	
Scutari . .	2895	2385	1865	972	421	2384
Kulalee .	861	450	124	238	134	815
Totals . .	3756	2835	1989	1210	555	3199

(2.) *Return of sick treated in Kulalee Hospital from 1st April to 21st August,* 1855.

Remaining 31st March.	Admitted since.	Total treated.	Invalided to England.	Discharged to duty.	Deaths.	Remaining 21st Aug.
815	1586	2401	785	931	94	591*

(3.) * *Return of the cases of dysentery and diarrhœa treated in my own wards*[a] *from 16th May to 15th November,* 1855.

Diseases.	No. of cases treated.	Discharges.			Note.
		Invalided to England.	To duty and convalescent ward.	Deaths.	
Diarrhœa . . .	136	21	115	—	According to the hospital regulation, only sick received from depôt were discharged to duty directly. All my Crimean sick, constituting nine-tenths of admissions, passed through the convalescent wards.
Dysentery, acute .	4	—	4	—	
„ chronic	159	63	74	12	
Totals . .	299	84	193	12	

[a] Division of the hospital appropriated to this class of diseases.

These three returns show that, besides deaths, more than one-fourth of the sick brought down from the Crimea to the Scutari hospitals would not be available for next winter's campaign, and that not one-third of the whole were cured in the sense of being restored to active soldierly duties.*

Now, let us visit and inspect the military hospitals on the Bosphorus belonging to England and France, in order to apply this other means for judging of the effective state of both armies at the close of the war. And, in courtesy, we give precedence to the sick establishments of our Allies.

From the period of the passage of the expeditionary forces into the Black Sea, the French Government gradually increased the number and enlarged the capacity of its military hospitals on the Bosphorus, until in the spring of 1856 it had fourteen in full operation.

These hospitals were situated in and around Constantinople on the European side, with one exception, and embraced a circuit of many miles. Thus, from Gulhanéh —the Seraglio garden,—at the eastern face of Stamboul, to the camp at Maslac, over Therapeia, is a distance of eleven miles, south to north; and from Dolma-Batchi, on the Bosphorus, to Daoud Pacha, beyond the old walls of the city, is eight miles, east to west. Tents and huts

* The Kulalee return (2) embraces, it will be observed, the transition period between our worst and best hospital experiences. I venture to predict it will be found, on the official publication of the total casualties of the war, that the Kulalee proportions present a fair average of the results of our hospital treatment throughout the war.

had also been provided for fifteen hundred scorbutic cases on one of the Prince's Islands in the Sea of Marmora. Of these hospitals, varying in size from three hundred to two thousand four hundred beds, some were of new construction—wooden huts for the most part—others consisted of buildings originally destined for other uses. Two had been Turkish hospitals.

An official return, obtained from M. Thomas, shows the extent to which the above accommodation was used,

"*Mouvement général des malades traités dans les hôpitaux de Constantinople pendant le premier trimestre de* 1856.

Janvier, 13,520. Février, 21,309. Mars, 18,167."

These numbers establish a great mass of sickness, in relation to an army circumstanced as the French were in the Crimea. But while the sickness was formidable from its amount, it was also of a specially malignant character, the condition in which it was seen being, likewise, most unfavourable for proper treatment. The special destructiveness of the two causes just named I proceed to demonstrate by showing—(1) the nature of the prevailing diseases, and (2) the results of medical treatment in the French hospitals on the Bosphorus. This demonstration, I think, on the whole, may be best effected by using the words and form in which the facts were originally communicated by me to the Director-General, Army Medical Department.

Notes of Visits to the French Military Hospitals on the Bosphorus during the Spring of 1856.

Hôpital de Pera.

1. This hospital is situated towards the north-east side of the *Grand Champ des Morts*, at an elevation of 400 feet above the Bosphorus. It stands inland, distant about a mile, and commands a magnificent view of the strait, Sea of Marmora, and the opposite Asiatic coast.

2. It is a building of recent construction, and, until converted in 1854 to its present purpose, was used as a Turkish infantry barracks for 1200 men. It is of square form, three stories high, of some architectural display, with a spacious court within. Ventilation and drainage have been skilfully effected. The supply of water is abundant and of good quality. Like other similar buildings, the soldiers' quarters are large, lofty, entered from wide stone-floored corridors, and lighted by windows, some looking over the country, others into the corridors. The stairs, four to each floor, are unusually large and of easy ascent. Square turrets at the angles serve for officers' quarters. The edifice attracts the attention of the voyager on his entrance into the Bosphorus, both for its grand external proportions and capital position; while the perfect adaptability of the structure for the end designed satisfies the closest inspection.

3. By placing beds along the corridors, in passages leading to the wards, and in certain intermediate places not originally meant for sleeping apartments, and by packing them very closely—only two feet apart—accommodation has been obtained for 2400 sick, besides

orderlies and other hospital attendants. There are quarters, likewise, for orderly officers, dispensers, clerks, chaplains, *Sœurs de Charité;* also, all the requisite appurtenances and necessaries of such an establishment.

4. On the 1st of March there were only a few unoccupied beds, rendered vacant by the deaths occurring in the preceding twenty-four hours.

5. The actual Medical Staff for the service of the hospital consists of three first-class surgeons, three second-class, and four aides-majors, all *médecins traitans;* besides whom, but without direct charge of sick, there were several sous-aides, French and foreign. One orderly, a soldier, not a trained *infirmier*, to fifteen or eighteen patients, aided by a few *Sœurs de Charité*, is the present proportion of such attendance.

6. The first general view of the internal state of the hospital disappoints and grieves the visitor. Very few convalescents are seen moving about. From the sick being either too ill to leave bed, or not having hospita clothes to wear, an unusually sombre aspect is given to the wards. A peculiar offensive odour is perceptible throughout. Filth of various sorts covers the floors, walls, and windows. Patients in bed and orderlies smoke and spit everywhere, according to their momentary convenience. There are no night-chairs, chamber utensils serving for all purposes. A narrow headboard to the bed is the convenience used on which to place medicines, drinks, tobacco and pipes, &c., while the bed itself is the ordinary receptacle for the military clothing, boots, and head-dresses of the patients; and, judging from the careful manner in which coats, trousers, and various articles of wearing apparel are spread on the coverlet, the

painful impression is forced upon one that the body-clothes are used and sanctioned as a substitute for blankets. Even cavalry leathern overalls are so used, and their appearance shows them not to have been cleaned since last worn on horseback. The bedsteads are all of iron, of large size, and superior construction. The beds themselves are also unexceptionably good, being formed of a lower paillasse and upper flock mattress. The sheets are coarser than those used in English hospitals. One pair of blankets, however, large and of excellent quality, is allowed to each bed, and notwithstanding their scant and questionable coverings, the beds look well, from the neat mode of dressing them. Their nearness to each other is certainly very objectionable.

The internal condition is further unfavourably affected by the odious state of the *latrines*. Sufficient care has not been taken to maintain and apply an abundant constant flow of pure water. Stoppages may also have happened in the drains. From this source and other more obvious causes a most foul stench pervades the wards, and is even distinguishable in the corridors, in spite of open windows and the liberal aspersion of chlorates. The Turkish baths are shut up, a substitute for remedial purposes being found in the ordinary slipper-bath. The arrangements and conduct of the culinary department appear to be wholly unexceptionable.

The pharmaceutical department can be reported of in like laudatory terms. All the medicines are dispensed under the eye of one *chef*, assisted by subordinates specially educated.

The warmth of the building is attended to by stoves

burning charcoal. In the corridors, the windows being wide open, and floors just washed, the temperature was necessarily low at this hour, 7 A.M., and a complaint of cold was general. On the contrary, in the middle wards the air was hot and close—*étouffante;* but in the large ones looking outwards the warmth was pleasant and the air less deleterious. There are no *data* from which one can determine the number of cubic feet of air allowed to each patient in the Pera hospital. According to French army regulations, twenty cubic *mètres*—five hundred and eighty-five feet of space—ought to be allowed for each wounded or fever case. I thought, on an eye comparison, that at least five beds occupied the space given to three in the Scutari wards, while the apartments were not so lofty; besides which, the beds themselves are more bulky than ours.

7. The number of sick is not only disproportionate to the capacity of the hospital—there being double the number of patients that there ever were of even healthy soldiers in this edifice,—but the prevailing diseases are remarkable for their epidemic character and fatality. Typhus, scurvy, dysentery, frost-bites, hospital gangrene, abound; the first, however, by its virulence, extent, and type, being more deadly than all the others taken together. The contagious nature of the fever, both as imported from the Crimea and as produced in the hospital, is neither doubted nor denied by any French medical officer who has watched its symptoms, progress, and sequences. The number of surgeons who have fallen as sacrifices in their duties is almost without parallel in hospital service; and this fact gives sad earnestness to the convictions of the survivors with

regard to the infectious property of the fever. Sisters of Charity, priests, orderlies, and all whose service compels them to pass several hours daily in the wards have been, with few exceptions, attacked. But worse even than this is the deplorable fact, that sick labouring under the other diseases named above, when their progress to recovery is begun, are seized with the identical fever, and contribute in their persons to the list of the dead and to the spread of the pestilence.

Scurvy exists to a lamentable extent, as do also frost-bites and bowel complaints; and many deaths are returned from scorbutic diarrhœa—an expression which means, probably, purging with the essential scorbutic condition,—*un état typhique* being also superadded before death. Several cases of amputation after frost-bite are pointed out in these wards, and no instance of successful or promising result. On the whole, it has never before happened to the writer to witness a like pitiful condition of military wards and sick, and to acknowledge sterner calls on the self-sacrificing toils of the surgeon; while his devotion and the resources of medical science were made comparatively valueless by controlling circumstances beyond his proper sphere or power of action.

8. Because of the European reputation of Dr. Cambay, *Chef d'Hôpital*, and his distinguished courtesy, I bestowed several hours in two several visits on the close investigation of his wards. It was with manifest feeling of humiliation this experienced officer pleaded the insufficiency of hospital supplies to furnish the sick with suitable bed-clothing and the requisite changes of body-linen, however soiled by long use or casualties of disease. It was painfully evident that no personal ablution had

preceded the patients' being put in bed, nor had their shirts been removed since they had entered the hospital. An unforeseen pressure of disease under circumstances without immediate remedy, was alleged in excuse of this wretched state of things. Such an excuse was pleaded, and its validity partially recognised.*

In a medical sense, the state of the individual sick was very bad—that is, the prognosis was against recovery. The vast proportion, not to say totality, of the patients showed, in their attenuated limbs and sunken countenances, a bygone period of privation of proper nutriment. This is not the place nor time for inquiring how far starvation has contributed to the development of typhus in the French camp; but the resemblance in external aspect of these patients to those suffering under an identical fever during the famine years of Ireland was painfully striking. The fact of extreme debility from preceding insufficiency of food was recognised in the dietary as well as medical treatment. Nutritious soups, wine, &c., were almost universally prescribed to the full extent of hospital rules; which rules, be it noted, are far from generous to the sick, and can in no case be transgressed, unless at the personal cost of the surgeon. Indeed, as the type of this continued fever depends mainly on the predominant function affected, so the depressed condition of the circulatory and cerebro-nervous functions was the best guide in administering

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* It ought to be known that the French surgeon is not answerable for the cleanliness of the sick, beds, wards, &c., and of the *dépendances de l'établissement*, all of which duties belong *à l'officier comptable d'administration.*

stimulants.* Apart from this generality, I did not discover in the practice of Dr. Cambay, or any other *médecin traitant* of this hospital, any special mode of treatment. In the cases of patients who were attacked in the house, and treated from the beginning of their illness, emetics and calomel purges were first exhibited. After the first twenty-four hours, regard was had to the lesion of function predominating, and an appropriate treatment pursued. Perhaps to quinine were ascribed some specific curative properties, judging from its almost universal prescription in large doses. I did not hear one surgeon controvert by speech or practice the English doctrine, that typhus is essentially a disease having an existence independently of local or structural lesion.†

The scurvy cases were in this hospital frankly referred for origin to the ordinary etiological doctrine; and the treatment, local and general, was the common one of fruits and vegetables, with the fullest allowance of wine and soups. There was nothing peculiar in respect of the other prevailing diseases, only the large proportion of so-called "bad cases" was remarkable—that is, almost every patient claimed and had nearly the same amount of bed-side attention at the morning visit. The explanation of this unusual circumstance is that as soon as a patient is able to leave his bed, he is taken by carriage conveyance to a convalescent establishment at Maslac, and the vacant bed immediately occupied by a fresh arrival from

* I doubt if the wine used would be so classed by an English surgeon.

† At a subsequent period I forwarded to Dr. Andrew Smith a monograph on the Typhus Fever of the French Hospitals, which will be reproduced in the present publication.

the Crimea. Maslac, it is said, contains at this moment upwards of 3000 persons.

9. The medical staff of a military hospital with 2400 sick, during war in a foreign country, ought, according to Imperial ordinance, to consist of one *chef*, ten or twelve *chirurgiens-majors*, who alone have direct charge of patients, as many *aides-majors* and *sous-aides*, whose duties are similar to those of our house-surgeons and physicians' clerks—in all a staff of twenty to twenty-five qualified surgeons, besides persons who do the service of dressers and trained *infirmiers*. At the present time, at the *Hôpital de Pera*, seven military surgeons of all ranks perform the services of its wards, assisted by five foreign civil practitioners. Dr. Cambay has sole charge now of two hundred and three beds, assisted only by one *aide-major* and an *acquis*, an Italian; one hundred and fifty-four are the fewest under one surgeon, and he is of a military rank only so entrusted from necessity. The morning visit begins at 7 A.M., and ends at nine or half-past nine, during which Dr. Cambay actually dictated the particular diet and specific treatment of *one hundred and ninety-six* patients, the vast proportion of whom were suffering from acute disease.

10. The reported average daily mortality of this hospital for the last four weeks has been above twenty. The ratio of deaths to recoveries and to the total number treated has not been satisfactorily ascertained. In fact, the most suspicious reticence was manifested with regard to all statistical inquiries.

11. It is premature to pronounce positively on the *causes* of this state of hospital sickness and great mortality. They must be sought for in (1) external and

(2) internal agencies. In the former category there may be included fairly—(*a*) the malignant nature of the diseases—typhus and dysentery—brought into the hospital; (*b*) the enfeebled condition of the sick soldier at the period of his seizure in the Crimea, as demonstrated by the scorbutic affections of the vast majority, a condition indubitably attributable to unwholesome food or insufficient rations; (*c*) the circumstance stated, that the camp sick are transported hither in crowded ships, the passage being rarely effected under four or five days. (2.) As respects internal agencies, it is painfully evident that the hospital is overcrowded with sick,—that the wards are encumbered with many things contrary to military rule, but now necessitous,—that medical attendance is quite inadequate,—that the air breathed by the sick is very impure,—that pyrexial pollution is generated within the walls, and that consequently there is the propagation of disease from one class of patients to others recovering from scurvy, frost-bites, and other maladies, of which examples abound.

12. It were doubtless illiberal, unscientific, and fallacious to ascribe all these evils to original faulty organization or to present blameable administration of the Medical Department of the French army for service in the field or hospital duties. So far as the writer has had the means of informing himself, it appears that the present is altogether an exceptional state of things; certainly, the formulated system for providing food, medicine, and skilled attendance *reads well in print* (*vide* Vauchelle). The sudden outbreak of epidemic typhus, and the large development of scurvy, have actually exceeded and seemingly exhausted the sanitary means

of the French at Constantinople, although these were planned and prepared on a scale so vast as even now to be drawn upon by upwards of twenty thousand sick.

The sad sacrifice to their high vocations of the Medical Staff is also an event alike unlooked for and deplorable; and unquestionably contributes much to the laxity in military discipline observed, the hurried supervision of the sick, and the seeming empiric character and routine of medical treatment.*

Hôpital de Palais de l'Ambassade Russe.

1. This hospital, as its name denotes, has been forcibly appropriated to its novel uses. The property of the Russian Government and seat of its astutest diplomacy, this ambassadorial residence, by its noble position and pretentious architecture, is well worthy Imperial occupation.

2. Crowning the lofty *plateau* of Pera to the south, and overlooking a long sweep of the Golden Horn, the Seraglio Point, Sea of Marmora, Prince's Islands, and Mount Olympus in the distance, this edifice boldly proclaimed Muscovite aspirations and expectancy. Although placed in the most crowded and confined street of European residence and traffic, the building stands grandly isolated. A spacious court-yard and carriage-approach on one front, gardens, terraces, and out-offices on the other, all surrounded by lofty walls and

* According to official authority, this hospital received in twenty-two months of its French occupation 27,500 sick and wounded, of whom 5040 died. The number invalided is nowhere published.

gilded gates, might protect its inmates against pestiferous intrusions and ruder assaults, such as have decimated native and foreign inhabitants of the neighbourhood. The internal arrangements of the palace admitted of ready adaptation to its present purpose—that of the reception of the sick officers of France—without much injury to its elaborately embellished ceilings, porticoes, vestibules, and halls. It is unnecessary to add that the internal economy of the house is perfect as regards drainage, ventilation, and all personal conveniences.

3. At the present time (3rd March) there are under treatment within its fresco-painted walls seventy-three patients; thirty-five of whom are medical officers, five priests, the remainder military men of various grades, chiefly from the Crimea. A melancholy incident marked my first visit to this temporary hospital; it was to be present at the autopsy of two army surgeons, one of them of the highest rank, who had died in it the day before, both from fever caught on duty in neighbouring hospitals.*

4. I found everything in the apartments complete and orderly for the proper treatment of sick persons. Scrupulous regard to cleanliness, ample attendance, bedding abundant and of superior quality, and the number of *aides-majors* and *infirmiers*, leaves nothing to desire. A *médecin traitant* of the relative rank of deputy-inspector has exclusive clinical charge.

5. Typhus fever constitutes nine-tenths of the cases in

* Forty-six surgeons died at Constantinople of typhus—three were carried to the same cemetery in one day.

hand; and although many are very ill, the *salles* have remarkably little of the *triste* air of an hospital, by reason of the number of officers in uniform who are seen lounging about, the while indulging in the favourite weed. Fever has, notwithstanding, been very fatal in this place, confessedly one in seven of the whole treated since January. No specialty of therapeutic treatment was observed in one accompanying visit with Dr. Lelouis. Although theoretically he is of opinion that he has seen elsewhere among Crimean sick a *typhoid* fever, not strictly the typhus of camps, prisons, &c., yet he acknowledges his inability to point out one such example at this time.

6. The foregoing statement of the general condition of the wards and personal state of the sick in this hospital presents a remarkable contrast in both respects with what has been related of the *Hôpital de Pera*. In the former, everything dependent on military administration is irreproachable. Hospital equipments and sick comforts are abundant, and liberally supplied. The same cannot be truthfully vouched of the latter. Another curious difference is observable in the ordinary sick dietary of both. Whilst the surgeons of the *Hôpital de Pera* are restricted in the quantity and variety of foods from which to order for their patients, and can only procure *extras* by special endorsement, which they are instructed to use sparingly, the medical attendant of the officers is subjected to no similar restriction. A glance at the diet table of the inmates of the *Hôpital Russe* shows a *cuisine* of rare luxury and high cost: game, fish, oysters, turkey, pigeons, *pâtisserie* of all kinds, fruits, fresh and preserved, and the finer kinds of wine. This state of things suggests inquiring thoughts respecting the relative public

care taken of the sick officer and sick private in the French and English services respectively.

Hôpital de Dolma-Batchi.

1. This hospital is composed of two separate portions, sufficiently contiguous, however, to admit of ready access from the one to the other. The upper building is situated about eight hundred yards to the south of the *Hôpital de Pera*, of which it constituted the true hospital, and as such it was used. It consists of three fronts, one story high, except on the north-east side, which from the slope of the ground towards the Bosphorus admits of a basement floor, where, however, no sick are placed. The lower building is of old date, and long disused by the Turks as an hospital. The two buildings are now made to accommodate a thousand sick—six and four hundred respectively; a number greatly exceeding their capacities and original design. In the upper one this is effected by ranging beds along narrow corridors, and general crowding of the wards. By similar means the lower one is made to contain double its ordinary number.

2. These ten hundred sick are under the medical charge of four military surgeons, assisted by three civil practitioners, natives of divers lands. The orderlies are convalescent soldiers.

3. The general internal appearance and condition of the upper hospital differ little from what has been stated with regard to the *Hôpital de Pera*. The rooms being smaller, the close packing of the beds is more observable and objectionable. Six hundred patients are disposed of by various forced contrivances, the choice being, as stated

apologetically to the writer, either to crowd them in this manner on arrival from board ship, or to leave them lying in the streets; strange alternatives in the presence of hospital accommodation in stone structures and wooden sheds for twenty thousand men.

4. As respects *latrines* and baths, of the former, the original have been preserved intact, but without the constant water service—an essential part and condition of their utility; hence they are actually obnoxious, and really augment the febrific pollution. The Turkish bath, a model of excellence, has never had its fires lighted, though extolled by all native and foreign physicians in the country for its sanatory and curative properties.

5. This hospital, from being situated the nearest of any to the wharf used for disembarking French Crimean sick, has been appointed to receive the worst cases, especially of wounded men. The state of the patients confirmed the wisdom of this appropriation. The writer has no direct knowledge of the morbid condition or personal appearance of the English sick soldiers brought into Scutari and Kulalee hospitals earlier than February last year; but the experience of the last twelve months compels the painful statement that a much larger proportion of the French sick is in a *moribund* state when carried into hospital than was the case at Kulalee in our worst times. Not only are their physical powers more reduced, but the *vis animi* is utterly abased within them. They lie down to die, whilst the old English soldier made at least some self-effort to live. This mental and bodily prostration was most painfully visible in a number of men afflicted with scurvy and other ailments whom the writer happened to accompany into this hospital, and

whose treatment, in regard to the first measures taken, he had an opportunity of observing. This comparison might be extended to other particulars noticed on this occasion, and not to the disparagement of English hospital administration; but the subject does not exact it, and the picture itself is uninviting.

6. The preceding observations refer chiefly to the upper hospital. The lower one, from the decayed state of the buildings, and the injury done to the wall painting and fixed furniture of the wards, being, also, badly lighted and worse ventilated, fills the medical mind with alarm as to the helplessness and hopelessness of any therapeutic treatment. The exigencies of the service justify, it is presumed, the continual crowding of this place with imported sickness, for its wards are assuredly of themselves also producing disease.

7. The daily mortality is stated to be proportionally excessive, but the number of deaths could be ascertained only for the preceding twenty-four hours, during which thirteen corpses were taken out. Several of the surgeons and other hospital attendants have been seized with fever. One of the former died yesterday (4th March).*

The *chef* who did me the honour to accompany me on my visit, says that, while he believes in a true pathological difference betwixt typhoid and typhus fevers, he has not one of the former type in his hospital at present.

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* This hospital received from first to last 8582 sick and wounded, of whom 2318 died, being twenty-seven per cent.—*Baudens.*

Hôpital de Gulhanéh.

1. This hospital, opened with eighteen hundred beds, consists now of thirty wooden sheds erected at various times since the arrival of the French army. Twenty others are in course of construction. The former are ranged in regular order, fifteen on each side of an avenue twenty yards wide, and at a lateral distance of twelve yards from each other. The new ones are placed elsewhere, and not so symmetrically disposed. In size they are similar, the length being one hundred and sixty-eight feet, the width eighteen, the height outside to eaves ten feet, and inside to ceiling eleven feet. They are clinker-built, of half-inch boards, with the inner face plastered smooth and whitewashed, the flooring laid on rafters; on each side are thirteen windows. There are several openings for ventilation on the level of the floor, closed by wooden slides, but there is no contrivance in the roof for the escape of foul air. At one end, outside of the *salle*, but in contact with it, is a *latrine* opening into a receptacle, which is baled out daily, the contents being cast into the sea. At the other end are boarded off small places for the *infirmier-en-garde*. The stated cost of each shed unfurnished is 12,000 *francs*.

2. These sheds occupy a large portion of the famous Seraglio gardens, which are bounded on one side by the ancient palace of the Sultans, the mint and armoury; on the other by battlements which overhang the Bosphorus, and form the southern side of the entrance to the port. The grounds are low, of rich loose mould, well drained, but the spacious enclosure is closely planted with cypress and other trees of thick evergreen foliage; sunshine and

free circulation of air not having been judged, perhaps, the first essential for the health and pastimes of its former fair exclusives. There has likewise been appropriated to hospital purposes a large three-storied edifice, till lately an Imperial residence.

3. Accommodation has thus been provided for fifteen hundred sick soldiers in the sheds, and for sixty officers in the building. All parts and beds are fully occupied by patients, for whose treatment twelve surgeons are appointed, eight of whom are *médecins-majors*, and four *sous-aides*, who have no direct care of sick. M. Thomas, *Médecin en chef des hôpitaux* has his residence and offices at this hospital, which may be therefore considered the head-quarters of the Medical Staff at Constantinople.

4. The badness of the weather, by preventing at this time more distant excursions, suggested my visit to these wooden structures under very *testing* circumstances; for the cold was intense, there had been much previous rain, there was deep snow on the ground, and a high wind was blowing. Had not the impression then produced been favourably modified by a subsequent inspection, I should now hesitate to record my earlier experience. But, at best, to write fully of the general internal appearance and state of these hospital sheds, is a task one would willingly avoid.

The facts are these:—The windows had not been opened, save momentarily, for several days, and they are the only existing means for thorough ventilation. Three stoves burning green wood are the sole means of warming an area of about 24,000 cubic feet. There are no night-chairs or other closed utensils, and several coverless chamber-pots were noticed to have been used for

alvine dejections by patients unable to go to the *latrine*. The floors did not appear to have been washed, scraped, or even roughly swept for a long time. Where water or other liquid had been spilt, some sort of mopping was practised, but not enough to effect dryness. The air was fetid, pungent, loathsome, occasioning an instinctive impulse to rush from its influence. One felt through every sense that he was breathing a plague-tainted atmosphere, charged with probable injury to the healthiest, with certain slow destruction to the bed-ridden inmates. The wards were without any means of pure ventilation in bad weather. The windows being necessarily kept shut, the doors could admit only an uncertain gush of external air; but even this, at one end, had first to pass by the *latrine* abutting on the entrance. There is no outlet by the roof for foul air, even if the openings near the floor were used for constant ventilation, which they do not appear to be, but chiefly for casting out filth. I cannot venture to describe the sensible effects felt from the cold, damp air, and foul floors of the wards, on the occasion of my first visit. In one *salle* in particular, I experienced the self-same discomfort which I have spoken of elsewhere (*Memoir on Remittent Fevers of the Levant*) as having undergone in the hold of a captured ship of war crowded with sick and wounded. It was not a mere loathing of all seen and smelt, but a reasonable dread of personal consequences that quickened my passage through these places. Yet, strange to say, in conversation no medical officer has noticed the offensiveness of the wards. This silence may be simple discretion—it cannot be ignorance of the deleterious properties of the air produced and breathed by the sick.

To inspect closely individual cases under such circumstances would have been simply foolish. It needed not, however, any very prolonged scrutiny to detect in the faces, bodies, and positions of the sick generally sure proofs of their "doing badly." To hear of the daily rate of mortality was not so shocking as it was to observe the irremediable state of the living. The healing art of the physician is humiliated in the presence of personal conditions beyond his power of controlling; while the *vis medicatrix* of the patient was overpowered through fatal influences from without. I asked myself what good could medicine or food do for sick persons breathing day and night such a polluted atmosphere, and lying in the midst of so much filth of all kinds; while themselves and their maladies were hourly rendering the atmosphere more infectious and the filth more noxious?

A second visit, made a few days later, is in some respects less painful to speak of. The day being warm, and the sun shining brightly, the medical attendants had felt at liberty to allow a large number of the sick to be seated outside, and others to be carried out wrapt in blankets and laid on mattresses. The windows of the *salles* were wide open, and produced a thorough draught of pleasant air. It was to be regretted that the bedding and body-clothes had not been also removed from the vacated beds, and exposed to the air and sunshine. Notwithstanding this marked improvement in the atmospheric state and general aspect of the wards, there remained many most painful evidences of the actual inattention to the cleanliness of walls and floors, to the condition of the beds, and to the conveniences of the sick. In fact, the disorder and dirt of the *salles* were to

the experienced eye of an English military surgeon present with me, only second in gravity to the fearfully emaciated state of the sick themselves—a state either foreboding death; or one from which the sufferers would arise only as life-long invalids. But the civilian physician also sees much in all this irreconcilable with his experience of English hospitals; and naturally asks himself how comes it to pass that an Imperial dynasty held by military tenure, the resources of a first-rate Power, and a high order of medical science to apply hygienic rules, can permit such a state of things to continue for months in the presence of ambitious rivals, of generous friends, and grateful allies; and this, too, at a period of the struggle when the life of every soldier is of the very highest moment? With even increasing astonishment the visitor has to note personal filthiness, and foulness of bed and body-clothes: he perceives stench from many sources, men's kits substituted for and supplying the place of bolsters and blankets, the same mattresses and blankets used for a succession of sick, without regard to the cause which vacated the bed, whether recovery or death: he learns, besides, that the beds are in fact never empty, day or night; every patient thus becoming a source of febrile emanations, in disregard of the medical testimony that a most destructive fever is being communicated from bed to bed! But he is not surprised when he hears that, in these circumstances, the deaths range from twenty to thirty daily. All this is forced upon his observation, and more, which neither bears nor needs description. And, therefore, in the interests of science and humanity, one should wish to learn on whom lies this responsibility—on the military hospital

administration acting through the *Intendance*, to whom are given certain powers and duties, which, in the British service, belong exclusively to the medical department? Or, are the surgeons in charge of Gulhanéh and elsewhere unequal to the duties of their rank and profession under the present emergency, and do they therefore acquiesce in, because they cannot correct these manifest evils? Organization involves authority, responsibility implies power: great abuses exist, anomalies abound. The information requisite to answer these questions has not been volunteered to me, nor obtained by direct inquiries.

5. The diseases prevailing in this hospital differ in no respect from what has been already reported of others. I find typhus, scurvy, diarrhœa, frost-bites, the ratio of each being in the order now stated.

6. The state of the sick individually was, on the whole, very bad, that is, the chances of recovery were against the patient. The reduced physical condition of the sick materially influenced this diagnosis, especially in the fever cases. The extreme prostration of the vital powers, stupid look, small, rapid pulse, coldness of the exposed parts of the body, pale, cadaverous face, and the fetid dejections, were all proofs of the putrid type of the fever, as well as of a previous state of bad or insufficient food. It chanced to me, on my second visit to this hospital, to see nearly two hundred sick brought on shore direct from the Crimea, who had been embarked at Kamiesch six days before, and, with a dozen exceptions, all had to be borne on stretchers to the wards, six hundred yards distant. A sadder spectacle the writer never witnessed, for the sick wore their uniforms, which served only to make more conspicuous their wretched looks, feeble

voices, attenuated limbs, and shrunken bulk of body. A glance at several confirmed what I had been told a few minutes before—that it is no uncommon incident for the surgeon to find a person dead at the morning visit who had not been thought *moribund* the preceding afternoon; and it was added, that these unexpected deaths are not confined to the first forty-eight hours after admission.

As has been said, the day of my second visit was delightfully warm and enjoyable, and the patients showed to comparative advantage, seated, lying, or lounging outside; yet the appearance of the whole indicated a great degree of bodily wasting and mental depression, seemingly not the result of sickness alone, and certainly not now observable among English soldiers approaching convalescence. One is led to suspect the prevalence of *nostalgia* among the French. About one-fourth were out of doors. What I have seen of invaliding soldiers leads me to say that not one in ten of those whom I now observed would be equal to take the field for the next six months; and I have been assured that, throughout the war, not one in five received in the French hospitals on the Bosphorus has been sent back for service in the Crimea.

Reverting to the nature of the prevailing fever, the experience of Gulhanéh confirms the opinion elsewhere expressed of its positive communicability; but, unhappily, neither the official authority of M. Baudens nor the personal efforts of M. Thomas have yet succeeded in the segregation of the fever cases, and diminution of the crowding of wards. The *Intendance* is not yet of opinion that such advice and measures appertain *à l'art de guérir* of the surgeon.

7. The regulation number of surgeons for eighteen hundred hospital beds is at least double what are now doing the duties here, while inferior military grades are substituted for higher.

8. The average daily mortality, officially recorded, was for January, twenty-two; February, twenty. For the last few days there has been a greater falling-off.

Hôpital de l'Ecole Militaire.

1. This hospital is provided with eleven hundred beds. It is situated at the northern side of the *Grand Champ des Morts*, on the lofty *plateau* which, forming the western height that overlooks the Bosphorus, extends to Belgrade, a distance of twelve miles. It consists of eight large and twelve smaller wooden structures, the former containing each eighty-four beds, the latter twenty, besides tents recently pitched for two hundred more patients. Dr. Cazalas, a surgeon held in the highest esteem by his *confrères*, is *Médecin-principal*, and has four *chirurgiens-majors* and three *aides* to assist in the duties. Some pupils from the Turkish school of medicine are attached for help.

2. The general internal appearance of the large *salles* was better than those of similar construction at Gulhanéh. The vast length—upwards of five hundred feet, of each compartment—compared with the breadth, which is but twenty-one feet, and with the height, which is only thirteen feet, put architectural proportions at defiance; but economy probably determined the form. There was less crowding of beds and of patients than I had seen before. Advantage was taken of unoccupied beds to

renew blankets, mattresses, &c., and for the first time was observed this indication of the success which has attended the urgent remonstrances of M. Baudens against the indifference of the *Intendance* in respect of medical counsels. On the 13th March windows and doors and air apertures were all open, and the place altogether was free from offensive odours, although the floors and utensils were far from clean. The occupied beds were, however, as usual, covered with the patients' clothes, and the greater number showed the existence of recent foulness. Personal cleanliness does not seem enjoined even on those able to move about. Notwithstanding these and other drawbacks, this hospital contrasts most favourably with those formerly visited.

3. Typhus, according to M. Cazalas, constitutes three-fourths of all the sickness under his charge; the remainder consists chiefly of scorbutic cases.

4. Within the last few days the *Intendance* has authorized the number of sick in this hospital, now upwards of a thousand, to be permanently reduced. This proceeding is founded on the experience that this hospital has been peculiarly unfavourable to recovery, from its overcrowded state and the malignity of the prevailing fever. I am informed that seven surgeons, six Sisters of Charity, three priests, and scores of orderlies have contracted the disease within the last month. And yet, in presence of this fact, M. Cazalas maintains the non-contagiousness of the fever, and refers its propagation exclusively to a local miasm—the product of animal and vegetable decomposition and accumulation of sick persons; an opinion in which he stands alone.

5. The medical staff of the hospital is so reduced, that

the principal has charge of two hundred and thirty beds, besides discharging his various administrative duties. In ordinary times the number of medical men would be fully double what it is at present. According to the rules of the service, only *chirurgiens-majors* prescribe and order diet, and they are attended at the visit by an *aide-major* and a *sous-aide* who fill up the daily *cahiers* of medicine and regimen to the dictation of the *médecin traitant*. Now, one of these duties is performed by a foreign *acquis*, the other by an *infirmier*.

6. I had an opportunity of looking over the diet-table for the whole sick of the hospital in the hands of the *chef de cuisine*. It struck me as containing a remarkably small proportion of animal food. *Extras* are most sparingly ordered. It appears that the Minister of War has recently imposed certain economic restrictions on the issue of milk, sugar, fruit, and other "comforts." A surgeon told me that he transgresses these restrictions daily for the benefit of his patients, at the risk of being called upon hereafter to repay the cost of the articles prescribed by him. Complaints are heard in many quarters of this ill-judged parsimony under existing circumstances; and it is understood that M. Baudens has represented the evil directly to the government. It does seem strange that the authority of the *Intendance* is paramount in many things where the English surgeon is left free to act; for instance, the dieting of the sick, the allowance and quality of wine, the number of beds in a ward, the supply and change of bed-clothes, &c.

7. M. Cazalas, regarding the fever as malignant remittent in source and type, prescribes quinine in large doses in all cases for its specific febrifuge property. This

highly distinguished pathologist frankly acknowledges he founds this opinion rather on etiological deductions than any practical knowledge of typhus. I am satisfied he will come soon to recognise the essential characters of the present epidemic, and modify his practice.

All that I ascertained respecting the rate of mortality made it unusually high. It was said that in a particular division of the hospital the deaths equalled the recoveries.

These four reports appear sufficiently comprehensive to show the true condition of the French general hospitals for some months preceding the close of the war. They have been selected from several others full of similar particulars, because the hospitals of which I speak were considered the best furnished and administered. They are those, too, which English surgeons were taken to see *par préférence*, and, therefore, any exaggeration on my part can be exposed. The vast establishments at Daoud Pacha, Ramis-Tchiflic, Maltépé, Terrains des Manœuvres, each containing from twelve to thirteen hundred beds, remote from the track of medical visitors, seem to have had proportionally less military attention given to their cleanliness, crowding, and death casualties. In one of them the ratio of deaths to sick was above thirty per cent. for the month of February, and in that month the admissions were eleven hundred and forty-six from the Crimea and depôts at Daoud Pacha.

Instead, therefore, of fatiguing my readers with more details expository of the condition, management, and mortality of the French hospitals at Constantinople, I shall restate my experience and judgment in relation to them generally.

1. That two formidable epidemics—scurvy and fever—marked the beginning of the winter of 1855-56, both utterly ruinous to an army in the field, and one self-propagating to an illimitable extent whilst the circumstances in which it acquired its first intensity continued to exist.

2. That the invasion of such an amount of disease at the above period was unexpected, and during several months continued unprovided for, as regards surgeons, hospital accommodation and furnishings, clothes and other necessaries for the sick.

3. That, in these extraordinary circumstances, the forms and functions of the medical staff were as closely restricted *à l'art de guérir*, and on questions affecting the *hygiène* of the troops and management of hospitals as strictly subordinated to the *Intendance Militaire*, as they are at the Val-de-Grâce, by which means the destruction of the army was still further insured.*

It is now happily in my power to relieve the painful impression which the perusal of these statements must have caused, by presenting a very different picture, which was to be seen at the same time on the opposite shore of the Bosphorus.

Without denying the fact or extenuating the fault of the existence of much suffering and considerable sacrifice

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* M. Baudens' successful attack on this system, and its instant beneficial effects, were occurrences of too late date to influence strategic operations. His fearless remonstrances and direct approach to the Emperor obtained for him an exceptional authority, by which, and his intelligence, he saved many thousand lives to France.

of life in the British hospitals at Scutari during the winter of 1854-55—the result, be it said, of Governmental improvidence, departmental inexperience, and the inopportune enforcement of Fort Pitt routine to the exigencies of the moment—I can testify to the thorough efficiency of these establishments as early as February of the latter year. All essential requisites for the successful treatment of patients—surgical skill, suitable diet, personal comforts, order, cleanliness, and space—existed in abundance, and were administered with a liberality which satisfied the most exacting observer that whatever science, humanity, and affluence could do for the welfare of the sick and wounded English soldier, was at his command.

The history of these hospital establishments, the remarkable occurrences of which they were the scene, the individuals by whom served, their formation, development, and excellence, would form a very interesting chapter in the medical literature of the war. It is strange that it should still remain to be written. However, it is not my intention, nor does the subject require me to enlarge upon our Eastern hospital organization and administration generally. A brief sketch of the nature and result of English management of the sick, as witnessed at Kulalee, will suffice to explain the influence of this branch of the service on the sanitary state of the British army for twelve months preceding the close of the war. It will also serve the reader for points of comparison with what he has just seen were the rule and practice elsewhere.

1. Kulalee Hospital, a dependency of Scutari central establishment, and distant from the latter five miles to the

north, was built by the Turks for cavalry barracks, and as such was occupied by the Scots Greys on their arrival in Turkey. With the additions afterwards made it could have accommodated twelve hundred sick, but never had more than seven hundred beds occupied. First opened by Dr. Tice for the reception of patients, it rapidly presented all the careful attention to order, cleanliness, and medical arrangement for which his superintendence is distinguished. Subsequently, under Deputy-Inspector Humfrey, to these were conjoined firmness in enforcing military discipline and freedom from unprofessional exactions, which preserved for Kulalee a rank second to no hospital for the proportion of its recoveries, the contentment of the sick, and the happiness and health of its officers.

2. The number of Medical Staff appointed to the service of the hospital allowed to every patient the leisurely examination of his case and well-considered prescribing. With us, in contrast to the French hospitals, the cook does not wait the surgeon's morning visit, impatient for its close, that he may begin serving out breakfast, for which he must be previously furnished with the day's diet-roll; nor was it exacted from our medical skill, mental vigour, and bodily power, to save life by progressing from bed to bed, and by questioning, examining, and prescribing at the rate of two patients per minute, as I have seen done at the *Hôpital de Pera* for two hundred cases of dangerous diseases.

3. The wards were furnished with every requisite, I might say every luxury, for the well-being of the sick. The purveyor's stores abounded in all kinds of hospital appliances and medical comforts; and confidence was

placed in the judgment and integrity of the prescriber with respect to their consumption. I never heard of a requisition for extraordinary articles refused, nor knew of a diet cancelled on the ground of excessive liberality. On the contrary, I have often repeated a saying of Mr. Robertson, our most able purveyor-in-chief: "It is for you," he said, "to put on paper whatever you consider beneficial for your patients; it is my duty to procure the article, if money or labour can." And the truth is, that fowls, fish, the best of soups, eggs, milk, Wenham-lake ice, champagne, claret, fruits—indeed, every luxury that could be afforded in high life at home—were dispensed medicinally to the soldiers. Beds and bedding were of excellent quality, and so abundant, that a soiled sheet was never seen at morning inspection. Night-chairs and similar conveniences were plentiful.

4. The internal condition of the wards was cared for in other sanitary particulars, which deserve mention. For instance, the measure of pure air allowed for a bed was, on an average, nine hundred cubic feet, being more than double that found in the French hospitals; then the most scrupulous attention was given to cleanliness of every article of furniture and of the patient's dress. Orderlies were apportioned one to eight sick, and fatigue parties were readily granted in aid by Major Heaton, whose intelligence and courtesy in military command at Kulalee were ever subservient to hospital purposes. So excellent in all parts was the administrative management of the place, that I have seen upwards of two hundred sick arrive unexpectedly from the Crimea, landed, distributed to wards according to diseases, thoroughly washed, or bathed by immersion, put into bed, and prescribed

for, varied nourishment given, and medicine administered within a couple of hours.

5. But, besides these Government stores and military appliances thus bountifully placed at the disposal of the Medical Staff, the sick soldier experienced the private munificence of his QUEEN and country. He had bestowed on him, too, the unpurchaseable sympathy and services of individuals whose hearts and hands were full of beneficence in his behalf. To the prudent nursing of the SISTERS OF MERCY—women alike submissive to learn as prompt to act—I am proud to acknowledge myself grateful for the preservation of many lives; while the earnest solicitude of the LADY NURSES to be useful in their self-imposed vocation made them ever forward in acts of purest philanthropy. I know the presence of pious, gentle, confiding females in my own wards at Kulalee hospital proved of unmixed good to the patients, and I believe the sacredness of their sex and mission were universally respected.

> "A kindlier influence reigned, and everywhere
> Low voices with the ministering hand
> Hung round the sick. The maidens came; they talked,
> They prayed, they read, till she not fair began
> To gather light, and she that was, became
> Her former beauty treble; to and fro,
> Like creatures native unto gracious act,
> And in their own clear element they moved."

What I have stated on personal experience of Kulalee I am enabled to extend to the Barrack Hospital, Scutari, whither the Medical Staff of the former place were moved in December, 1855, consequent on its disuse as an hospital But Scutari itself seemed almost devoid of

patients. Its mile-length corridors were restored to their original purposes of barrack construction—namely, to afford sheltered promenades for the soldiery. Several divisions had been closed, and few of the still open wards were half-occupied. The diseases, moreover, presented no specialty dependent on climate or military service. There was a total absence of so-called camp-diseases. In fact, a large proportion of the sick were men belonging to the Land Transport and Medical Staff Corps, just arrived from England. During the four months preceding the signature of peace, the daily average of sick throughout the Scutari hospitals, including Renkioi, was under a thousand; and the mortality did not exceed one death in twenty-four hours.

This extraordinary dearth of patients from camp and depôt did not induce any unpreparedness against the possible contamination of the British troops from the French huts and tents, and the consequent return of the sickness of the preceding winter. The efficiency of this preparation was remarkably displayed on an outburst of cholera simultaneous with the landing of a foreign legion at Scutari. Through the energy, intelligence, and hearty co-operation of General Storks and Dr. Linton the disease was confined to one corps, and its disappearance effected within a month.

Lastly, as an evidence of our superabundance of requirements for sick, and of liberality in the manner of their bestowal, I may state, that in March General Storks offered the French authorities at Constantinople to furnish completely an hospital of one thousand beds, and to supply food, medicine, and professional attendance

for that number of French sick as long as required. The offer was not accepted.*

It were personal ingratitude to close this page on Scutari, and not honour it by respectful mention of Miss Nightingale's name. There can be no antagonism in the mind of any army medical officer who did duty in that hospital to the world's praise of her Eastern mission, and to her merit in its accomplishment. I would bear

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* There happened about this time another incident not less characteristic of the *entente cordiale médicale* subsisting between the two armies, and of French hospital destitution, than the above cited example. As M. Baudens has failed to notice it in his pages, in which the circumstance might more appropriately have been recorded, I may be pardoned for stating it here. It having become known to the English Medical Staff at Scutari, that their *confrères* on the other side of the Bosphorus were sinking under the severity of their hospital duties in consequence of the number of surgeons lately carried off by death and disabled from sickness, Dr. Linton asked for volunteers to supply their places. The invitation was promptly accepted by several. Ten medical men passed over at once into the French hospitals; and remained five weeks so detached on duty. Now, it appears to me, that if this service, in motive and execution, was too trivial for mention by *M. le Médecin-Inspecteur*, then the thanks of General Pariset are a falsity and an affront.[a] If, on the contrary, the service was honourable to all concerned, then the silence of the narrator of his own Eastern doings must be accounted for in one of two ways—either it is a politic homage to the known opposition of the *Intendance* to the English mission, or it is meant to keep the Emperor uninformed of the circumstance, from the fear that a knowledge of it might provoke unwelcome questionings as to the reason for English assistance being needed; moreover, why, when that assistance was accepted, has it remained without any honorary acknowledgment?

[a] "Je veux exprimer toute ma réconnaisance pour la soin, le zèle, et je dirai même l'affection qu'ils ont montrés à l'égard de nos malades. . . . Je prie votre Excellence d'être l'interpréte de mes sentiments de profonde gratitude."—General Pariset's *Letter to General Storks*, dated 20th April, 1856.

most willing testimony to the beauty and worth of her manifold services. Especially would I make mention of the subserviency of her unwearied labours of love to a higher end than that which the physician or surgeon primarily has in view. She was indeed the "ministering angel," when

> "Despair
> Tended the sick, busiest from couch to couch."

They do Miss Nightingale injustice, and I am sure must cause pain to her noble heart, who would try to exalt her genuine goodness and large helpfulness by depreciating the services of the Medical Department at Scutari, even at the time when its competency was most severely put to the test. Her presence there and everywhere was felt for good in a thousand ways, of which medical men were the first to testify.

These few facts abundantly show to what extent Scutari hospitals were equal to the purposes of their institution. They surely prove that enlightened capacity, experience, and foresight had made them trustworthy auxiliaries to the hostile strength of an army in the field. Even assuming, what was never demonstrated, that the French hospital service in the winter of 1854-55 was all that its literary advocates vaunted it to be to the disparagement of English medical administration, it is very certain that the results of one year's experience of the two systems at Constantinople and in the Crimea did not uphold the imputed superiority of that of our Allies.

Be this as it may, the facts stated illustrate by contrast the excellent sanitary state of the British army at the close of the war.

CHAPTER III.

MILITARY EFFECTIVENESS OF ENGLISH AND FRENCH ARMIES AT THE CLOSE OF THE WAR.

It is necessary to compare the sanitary state of the English and French armies in the Crimea from a third point of view.

In the first chapter was established the fact of a remarkable difference in the amount and character of sickness in the two forces during the last winter and spring spent in the Crimea. The second made known the hospital efficiency of each in restoring the sick to military service. In this division I propose to show—(1) The combined causes and circumstances upon which the health of the English and mortality of the French camps depended. (2) The effects of these conditions on the relative powers for hostile action possessed by the two armies at the close of the war.

For the sake of illustration and contrast, we shall go back to the state of the English camp during the winter of 1854-55.

I have not asked for official information respecting the amount and nature of sickness, and the number of deaths in the British army for the first six months of active hostilities before Sebastopol. Mr. Russell's most trustworthy pages—for I believe his narrative to be as truthful as his purpose in making that narrative public was

patriotic—are sufficient for the object in view. From them we learn both the fact of a terrible destruction of life, and the circumstances under which this took place. Thus we find it stated that, in October, 1854, out of 35,600 men borne on the strength of the army, there were not more than 16,500 rank and file fit for duty and that, in consequence of reduced numbers and disproportionate labours, the soldiers were out of bed four nights in seven. Hence many were disabled by the severe trench-work and vigils, and all became enfeebled in body and spirits. Within four weeks preceding the middle of November, three thousand five hundred sick and wounded were sent to Scutari hospitals, the prevalent diseases being fevers and bowel complaints. December witnessed an aggravation of sickness and sufferings. Already worn out by excessive night fatigues, exhausting toils knee-deep in mud, the endurance of rain and cold for weeks together, under insufficient protection by night and day, the soldiers experienced the further hardship of reduced rations, caused, if not excused, by the difficulty of transporting food and fuel from the state of the roads after the memorable storm of the 14th November. The year 1855 opened on the beleaguering forces with a sad record of the miseries of war. Three thousand five hundred sick were reported in the Crimean hospitals, and between seven and eight thousand sick, wounded, and convalescents in those on the Bosphorus. From the 1st December to the 20th January, eight thousand sick had been transferred from the regimental to the rear and general hospitals at Balaklava and Scutari. The chief diseases from which these men were suffering were low fevers, scurvy, frost-bite, dysentery, and diarrhœa—

diseases, for the most part, justly attributed to overwork, poor fare, bad weather, and insufficient clothing.

The general correctness of the above representation may be safely assumed, and it may with not less correctness be added, that, however varied the immediate cause of death among the hospital sick, the sources of camp-disease, exclusive of casualties from gun-shot wounds, were common; and that these sources were exhaustion of the vital powers from overwork, inadequate night-rest, unsuitable clothing, and inappropriate shelter against wet and cold, scarcity of fuel for cooking, unwholesome food, and insufficient nutriment. Moreover, these several deteriorating influences were aggravated by an unusually severe and protracted winter. All these surrounding evils essentially contributed, though with varied force in different divisions of the army, to produce the deplorable condition to which the British troops were reduced in the winter of 1854-55. But, according to my observations, neither the cold nor the other privations enumerated would have proved so fatal to the English army, had there not been so great a pressure of overwork in proportion to the quantity and quality of the aliments supplied for the soldiers' support. It was notorious, for instance, that, until after the battle of Inkermann, the English troops undertook a greater extent of trench-formation and of trench-defence than was allotted to a French force of double the number. I do not think sufficient weight and consideration have been given by writers and speakers, in accounting for the calamities of the early period of the war, to this last circumstance and its consequences. In my own wards it formed the burden of the men's complainings, and its

physical effects were only too visible in the exhausted vital powers and shrunken frames of almost every one brought into hospital;—conditions which no experienced medical eye ascribed to disease only.

In order, however, more clearly to establish the destructive action of this disparity of strength to labour, and to mark the importance which I ascribe to it as a chief agency in producing the frightful proportion of sick to the numbers of the army, I shall avail myself of the following official figures:—

(1.) Rank and file effective and present under arms for the month of January, 1855	11,367
Detailed for duty of various kinds, daily	5,321
(2.) Sick—in the Crimea	4,158
„ elsewhere	7,857

These returns show that, of a numerical force of 23,382 men borne on the regimental muster-rolls of the Crimean army, more than one-half (12,015) were withdrawn for a considerable period: whence it followed that 11,367 effectives had to perform both their own duties and those of the sick. And this sad disproportion of strength to labour told necessarily with increasing destructiveness upon the efficiency of the army.

But, as these evils could be severally traced to miscalculation of means to an end, mismanagement of resources, unpreparedness of one kind or another, so they admitted of complete correction by ordinary agencies. All required were a frank recognisance of errors, and a prompt application of proper measures for their present removal and future prevention. And this was the course actually pursued. The people of England insisted that

her soldiery should have a fair chance for their manhood; that their high courage should not be overtasked, their endurance worn out, and their lives forfeited through unnecessary labours, privations, and perils. Accordingly, we find that early in February, the health of the camp had improved, and that towards the end of the month, Mr. Russell was able to exclaim—"typhus fever, thank God, has nearly disappeared."

Simultaneously with some reinforcements of fresh troops, and with the return of many men from hospital, with better commissariat supplies, and the carrying out of arrangements whereby excessive night duties were lessened, the Medical Department in the beginning of March set about thoroughly freeing the encampment from local pollution. Dr. Hall, Inspector General, formed one of a Medical Commission whose particular duties were to visit the hospitals and inspect the camp with reference to the sanitary condition of both. Under the direct authority of this Commission, the sepulture of the dead was better ordered, carcases of horses, &c., were collected in heaps and buried in lime, cesspools were cleared out and *cloacæ* constructed, quantities of rotten stuffs, rags, bones, filth, in short, of all sorts, were heaped together and burnt. These effective steps were ably seconded and promoted by a special Sanitary Commission, sent out from England for the express purpose of recommending the employment, in camp and hospitals, of the prophylactic and hygienic measures enforced by the Central Board of Health in times of endemic sickness.

The beneficial influence of these and other energetic proceedings was soon felt throughout the army. Abundance of all kinds took the place of scarcity in the camp;

but it is sad to be informed, through the strife of self-justification, that at the very time when this scarcity prevailed—when hunger, unwholesome food, lack of fuel, insufficient clothing, were weekly decimating some regiments—that abundance existed, but was not available from the want of means of transporting supplies from Balaklava to the front. These means were provided by the construction of the railway, the effective organization of the Land Transport Corps, the establishment of central Commissariat depôts, &c., so that the sanitary state of the troops became in the spring of 1855, and continued to improve till the day of their embarkation for England. Thus, towards the end of February, the transport of sick to Scutari had decreased to two hundred and fifty weekly instead of twelve hundred, as was the case two months previously. A twelvemonth later camp sickness was unknown.

Nor could it be otherwise. With a splendid climate, encamping ground naturally salubrious, strict attention to personal and local cleanliness, intelligent medical supervision, profusion of all the necessaries and many of the luxuries of life, common sense as well as medical science is satisfied that pestilence could not desolate the British lines.

My subject does not impose upon me the necessity of inquiring to whom chiefly are to be ascribed the sufferings and losses which so terribly thinned our ranks at an early stage of the campaign. It is enough for us here to know, that the great sickness of the first Crimean winter having arisen from material causes which were of a removable nature, these causes were removed, and the health of the soldiers thenceforth insured against similar

disorders. Even allowing that the calamities of that brief and all too memorable period were mainly owing to defective military organization and departmental ignorance, yet, when that organization was once improved, and that ignorance dispelled, a return of their consequences was physically impossible, unless through treason of the chiefs and connivance of the victims.

Hence we are entitled to conclude that, so far as regards hygienic influences, the British troops might have remained stationary and unharmed before Sebastopol for as many years as did the Greeks around Troy. But, more important still, it is indisputable that the same admirable condition of the camp—men and resources—preserved in the English army, up to the day of quitting Russian soil, the mobility essential for strategic operations, *ubique partis terrarum.* "Quand on compare les conditions où se trouvèrent les Anglais au début de la guerre, qui les prenait au dépourvu, et celles où ils s'étaient placés en 1856, on est forcé de reconnaître le grandeur de la nation britannique."* (Baudens, *op. cit.* livraison du Février.)

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* This quotation reminds me of an anecdote, rather opposed to this obligatory recognition of English *warlike* greatness, that had some currency at the time. M. Baudens, presiding at a *séance* of the Société Médicale Impériale, Constantinople, and speaking on the question of the relative fitness for soldierly movements possessed by the French and English Crimean armies in February, 1856, said that, according to his observation, such was the amount of "*comfortable*" needed by the latter in warfare that they could not attempt the Mackenzie Heights without the help of a railway—a feat the French were equal to any day. One listening to this pleasantry carried on the joke by remarking that, nevertheless, an English army did, once on a time, without such help, manage to keep pretty well up with a French one

We shall now examine, in a spirit of similar fairness, the sanitary state of the French camp in its bearings on the military questions under review.

This is a subject "that likes me well." Twenty-five years ago I published the result of personal researches, pursued in various parts of Europe and Asia, into the causality of certain epidemics.* My subsequent readings and observations have confirmed the opinions then crudely put forth regarding their mixed sources and law of development. Much that was then hypothetical has obtained practical acceptance in the "health of towns" bills of various communities. My old doctrine, that an intelligent magistracy and resolute police constitute the best medical staff in times of cholera, typhus, and plague, for the extirpation of these, is now received generally by the profession. We shall find some confirmation of its utility, likewise, in the practice pursued by the French in the Crimea.

Apportioning to a separate paper in this *brochure* the strictly medical discussion on the specific properties of the typhus of the French hospitals, I shall endeavour to be intelligible here to unprofessional readers with respect to the sources of this camp fever, and to its dominion over field operations.

We know epidemic influences only by their sensible properties in relation to resulting effects. All experience has shown that the soil or its covering is the

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on a rather quick march from Madrid to Toulouse, taking worse heights *en route.*

* *Etiology of Fevers. On the remote Cause of Cholera. The Remittent Fevers of the Levant.*

source, and the products of animal and vegetable substances undergoing putrefaction the materials and medium whereby the atmosphere of certain places becomes fever-producing. We know not the ultimate cause why putridinous exhalations are essentially morbific, nor has chemical analysis revealed the aëriform material on the presence or absence of which depends the occurrence or non-occurrence of particular fevers. In the instance of camp fever, properly so called, I am of opinion that two conditions are necessary for its production and propagation: *one*, the presence of persons labouring under one of its congeners—say ordinary typhus; the *other*, a locally polluted atmosphere. Diseased bodies eliminate seeds for fresh disease, *sui generis*, but unless these seeds find a proper soil for their reception, they do not germinate. According to this view, an air rendered impure by emanations from putrifying vegetable *and* animal matters becomes a necessary condition of camp fever; while, again, the fever spreads and intensifies by over-crowding, bad ventilation, enfeebled powers of life, &c. "I hold it, consequently, for a principle and a fact, incontrovertible as important, that the most virulent fevers can be restrained in activity and diffusion by means which medical science has pointed out. Whence I am further of opinion, that if the fact of local pollution as one essential source of this fever were recognised, and the importance of its destruction, or escape from it, authoritatively inculcated, that nine-tenths of the life and money cost of war would be saved a nation."*

The very interesting account which M. Baudens gives

* *Memoir on the Remittent Fevers of the Levant*, by Author.

of his services in the East* is most opportunely available for the application of these principles to the state of things which we have seen was existing in the French camp in the winter of 1855-56. The more evidently reserved his statements are the greater value have they for my present purpose.

Setting out with the avowal that the invasion of typhus in 1855 proved the greatest disaster and worst trial which the French army encountered during the Eastern expedition, he says that it constituted in February *one-fifth* of the whole sickness, amounting to forty thousand cases in hospitals at the front and on the Bosphorus: of which fifth, or eight thousand patients, he declares "*les deux tiers étaient voués à une mort certaine.*" Further to exemplify the comparative deadliness of this fever in the presence of the great mortality from all other diseases, the same authority states that in certain of the latter in ten days of that month there were only twenty-seven cures against three hundred and eighty-three deaths; while the discharges from the *ambulances* and *infirmiers régimentaires* were five hundred and nineteen cures, eight hundred and seventy-three deaths.† M. Baudens thus fully confirms what I made known from personal observation‡ respecting the amount and fatal character of sickness among the French troops. It is also satisfactory to

* *Revue des deux Mondes*, livraison du 15 Février, 1er Avril, et 1er Juin, 1857.

† *Op. cit.* livraison du 1er Juin.

‡ Officially reported to Sir Henry Storks, and the head of the Army Medical Department, through Dr. Linton, in May of last year, 1856.

find that his report coincides with the opinions which I was the first to express openly* in his presence, as regards both the identity of the Crimean fever with the typhus of the famine years of Ireland, and the laws which govern the propagation of the disease. He cites several facts to prove its truly infectious properties, and frankly exposes the general filthy state of the camp, the internal condition of huts and tents, and habits of the men, by which infection became so virulent and wide-spreading.

It is now acknowledged that the French troops up to the last took no effectual steps to prevent or lessen the noxious influences of decomposing animal and vegetable substances. The earth within and without the dwelling-places of the men was saturated with the products of human and bestial bodies, buried lightly "*par milliers.*" Throughout the winter, carcases were left to rot uncovered close to the tents, while the soldiers not on duty were all day long squatted (*blottis*) in huts and tents closely shut against fresh air, constantly wet, the enclosed area sunk, and loaded with all sorts of impurities. Personal cleanliness was impracticable in such habitations, and the *alentours* showed an utter disregard of all English notions of decency. To these local evils must

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* At the *Société Médicale Impériale*, Constantinople, 1st May, 1856. This statement may seem bold to readers not aware that typhus is unknown practically in France. A translation of a German work (Hildenbrand's), nearly fifty years old, was the only monograph I heard quoted for the symptoms and treatment of the disease. Hence the early denials of its specific name, nature, and contagious properties by several of the ablest surgeons I met with in the French hospitals.

be added the too close packing of huts and tents, both for the healthy and sick; and to this condition, producing and condensing mephitic vapours, M. Baudens ascribes the persistence of cholera, typhus, and hospital gangrene among the troops. In fine, we find the Médecin-Inspecteur, throughout his mission, complaining and remonstrating against the general filth of the camp and utter neglect of all means of purification, in stronger language than it becomes a foreigner to repeat. The abominable state of the sick-sheds and tents, and the inobservance of ordinary hygienic rules by the surgeons, are also severely censured.

Fortunately there was provided in the natural salubrity of the country, as we have seen, some corrective to the manifold evils and dangers which sprung from human ignorance or neglect. Except along the banks of the Tchernaya, the French occupied a healthy encampment,—"*toute était dans une bonne situation hygiènique.*" (Baudens.) Indeed, the knowledge that at Eupatoria, in the same season, they had only three hundred regimental sick in a force of twelve thousand men, negatives all aspersions against the Crimean climate.

Regarded from a medical point of view, these few facts are sufficiently demonstrative of the fatal consequences that followed the hygienic condition of the French camp in the winter of 1855-56. But, as I am not writing for medical readers only, I shall transcribe some information bearing on the same point, derived from a French military staff-officer, witness of, and sufferer from, the things which he describes. "You English," he said, "were abundantly provided and prepared against winter, the greatest enemy of armies in the field. You had clothing, huts,

provisions, fuel in excess of all possible requirements, and close at hand. The French soldiers, on the contrary, were not hutted, while their tents were old and much torn, so that the rain passed through, and it happened that the autumn months were extremely humid. There were no means of artificial warmth by day, and for night three blankets served two men for bed and covering. The soil within the tents was ankle-deep in mud and noxious filth. Hence the night cold prevented sleep, although the tents were closed as tight as possible to retain the bodily warmth emitted by twelve or twenty men under one canvas; and hence, again, the generation of a morbific atmosphere, for which the four small openings at the top of the tent afforded inadequate escape. As respects food, for months it was scanty and unwholesome, consisting of some English prepared meats, but chiefly of bad fresh meat, sausages, and salted lard, the last often so rancid as to be uneatable. Fresh baked bread had ceased to be issued, from the difficulty of conveying it to the men situated at a distance from Kamiesch. Thus, the troops towards Baidar had biscuit all the winter. The supply of wood for fuel was still more deficient, not a ration of it having been served out to the regiments on the plateau over Inkermann, although the men were frozen from cold. Wood could have been had at Kamiesch for the fetching, but the soldiers were unequal to the labour of marching three leagues and returning loaded, and other means of transport were not available for the purpose. After an entrance into Sebastopol had been effected, the demolished houses afforded a temporary supply, eagerly rushed for at a cost of considerable fatigue. Although after this event the military duties of hostile

attack and defence were almost ended, still the labour of road-making was severe all through the winter, and the men were badly clad for the weather and the work. In fact, new clothing was not served out till March, nor was the general construction of huts begun earlier."*

The fidelity of the statements, medical and military, just given, is amply attested by the great mortality experienced in the French camp. To recapitulate,—first, we are informed of the physical and moral conditions by which all exposed to their influence were predisposed to sickness; next, we have described to us abodes for the use of the healthy so vitiated as to have become prolific hot-beds of fever; and, third, we find the receptacles allotted to the sick destitute alike of means and hope of cure—nay, worse, themselves charnel-houses which had to be destroyed for the safety of the sick attendants.†

With reference to this last most important circumstance, the medical reader will find full and valuable testimony in a separate paper in this volume. The scenes and horrors of those places vouched for by French surgeons, are of a nature more suited to professional than general perusal. Suffice it here for me to affirm that the ambulance service had become the most dreaded source of dissemination of typhus through the French army. In the words of M. Baudens, "typhus overflowed the hospitals and was found in the regimental tents." Their

* This account is composed from notes of a conversation with a French staff-officer, obligingly communicated to the writer by Surgeon Longmore, 19th Regiment.

† "Dès le 16 Mars, le Maréchal Pélissier decida que deux ambulances profondément infectées, et dont j'avais demandé l'abandon, seraient immédiatement fermées."—Baudens.

presence and use were, therefore, at this time the reverse of preventive or curative of disease. Instead of proving auxiliaries and contributories of strength to the French forces, the entire hospital system had become a source of weakness, daily deepening, illimitable, irremediable. The destruction of some and partial evacuation of all these fabrics were recommended to the supreme military authorities at home and on the spot, as necessary for the salvation of the remnant of the army. They had thus ceased to be applicable for purposes of war; and indeed, ever since the commencement of the year, their infected state forbade any considerable enterprize, lest, through the results of such enterprize, wounded persons might be placed in contiguity with typhus patients.* Almost certain death would have been the fate of those so exposed.

War for the French army on the actual *terrain* had, consequently, become not more difficult on account of its general sanitary state at this time, than impossible with this hospital provision for its casualties. To this result the utter prostration of the Medical Staff by death, disease, and disproportionate duties, had already contributed its significant share. Forty-six surgeons had died from typhus alone. Scarcely one escaped an attack. There was fear lest the sick would be left utterly without skilled help; while the Minister of War, implored to send out as many surgeons as possible, declared his inability

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* "Un mal plus redoutable encore, la pourriture d'hôpital (hospital gangrene), exerçait d'affreux ravages. Beaucoup de blessés qui avaient été jusque-là épargnés s'en trouvaient atteints après un court séjour dans les hôpitaux."—Baudens.

to furnish any from France, because "*Il n'en avait plus à sa disposition, et le recrutement ne répondait pas aux besoins.*"—(Baudens.)

But it is not the aggregate amount of sickness in the army, although numbering forty thousand at one time, nor yet the enormous mortality resulting, nor even the inadequacy of medical attendance and other hospital resources to lessen it, nor the combination of all these malign elements, which constituted the really destructive force of the endemic afflicting the troops, but the law of typhic propagation, which, as I have shown, necessitates its constantly accumulating victims, so long as the conditions of its existence remain unaltered. M. Baudens seizes firmly, and boldly exposes this essential property of camp fever. "Il s'agissait de déployer des mesures énergiques, sans quoi la mortalité eût été sans limites." He made known to the Emperor, through the Minister of War, "dans quelle situation critique l'invasion du typhus place l'armée d'Orient." Again, referring to the same period—February, 1856—and circumstances, the same authority exclaims, "Nous étions menacés d'un veritable et affreux désastre." Another French officer of excellent means of information, speaking of this conjuncture, declared that "*cette armée aurait certainement péri toute entière s'il avait fallu lui faire faire quelques marches en Crimée.*"

So much for the acknowledged perilous position of the French army at the close of the war. The measures taken immediately upon the signature of peace, in order to arrest the progress of the distemper, confirm what I have advanced with regard to a state of war being incompatible with their adoption. First, Marshal Pelissier quitted his

belligerent encampments, and formed new ones on the southern heights, three leagues distant from his former lines; and, as far as practicable, a fresh *emplacement* for hospital tents and huts was provided: then, M. Baudens, in virtue of exceptional powers wisely conferred on him, seized upon the same event to separate the typhus cases from those of ordinary diseases,—retaining the former in the Crimea, and transferring the others to Constantinople, to make room for whom six thousand sick were embarked for France within a month. By these and other sanitary devices, admirably planned and determinedly carried out, he exalted medical science by establishing its control over this terrible destroyer. The Médecin-Inspecteur was able to congratulate the Minister for War that "le paix vint enfin mettre un terme à nos misères."

It is satisfactory for many reasons to produce M. Baudens' statements, which have just appeared in France (June). They show that I was not uninformed a twelvemonth back in my reports on this "war of disease," as I then called it. The French semi-official communications also prove that in the earlier chapters I neither fashioned facts nor strained arguments in support of the importance of my subject. Moreover, on a candid review of what I have advanced on my own knowledge, and of what I read in the papers quoted from, I am relieved from some apprehension with which this task was begun, in respect of impartiality in judging between the military medical services of England and France. Under very similar circumstances both were subjected to the severest tests of quality. As respects the former, we have seen how its recuperative energies and self-directed powers restored the department to a thorough mastery of the occasion

and its requirements. With reference to the latter, and its period of trial and suffering, I shall only observe, that if the military administration was not in fault, then the Medical Staff alone must bear the blame on the ground of incapacity or of negligence of duties; or if the latter had not the power to remedy the evils, though possessing the knowledge, then power and knowledge are disunited to the prejudice of the service. It is well to find, too, that M. Baudens himself admits the superiority of our sanitary arrangements in camp, which he rightly ascribes to the higher and more independent position of the Army Medical Department. English surgeons are thence enabled, he says, to exercise greater authority in enforcing hygienic measures.

Fortunately it is not the business of an Englishman to measure and allot individual blame for any French mismanagement now brought to light. For myself, it has been found difficult to suppress conflicting sympathies in reviewing certain facts in a judicial spirit. I acknowledge strong convictions to the prejudice of the *Intendance* in all that relates to hospital administration; and I am sure that English surgeons would not have submitted complacently to the professional indignities inflicted upon their French colleagues. It is impossible for me, however, to close these medical comments without noticing, to condemn, the facile manner in which M. Baudens ignores the difficulty and duty of exercising his privilege to rebuke official faults and apportion departmental censure. Verifying, as we have seen he does in every page, the existence of an unparalleled amount of camp sickness, the deficiency of medical succour, and the obstructiveness he encountered in his endeavours

to apply remedial measures, nevertheless M. Baudens perceives only excellence in the medical organization of the French army. "To relate the history of our establishments during the war will be," he says, "to show that *l'administration militaire** and medical science were always at the height of their twofold task—to preserve the health of the strong, and to restore that of the sick and convalescent" (*livraison du* 1er Juin).

This testimony to the entire efficiency of the two departments named is most extraordinary. The exalted estimate thus authoritatively enunciated is quite as irreconcilable with the facts and statements given by M. Baudens himself in the course of his narrative, as it is with my explanations respecting the mortality in the French troops and its immediate causes. Balancing, on the one hand, the sagacity of the observer, his official means for obtaining authentic information, and his presumed sincerity of speech, and, on the other, the actual condition of the French army throughout the winter of 1855-56, we must interpret the above quotation to mean that the destruction from disease was inevitable, that disease itself was not induced by faulty organization or defective administration, and consequently, that its increase was in no way attributable to human agency; in a word, that all the evils and disasters described in the pages of the Médecin-Inspecteur occurred in spite of the excellence of the system and

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* A department and designation unknown in the English army, but embracing commissariat and purveyor's functions, and some duties of the Quartermaster-General's office.

instruments provided to preserve the health of the strong and to restore that of the sick and convalescent.

Be it so: I dare not dispute the knowledge and integrity of M. Baudens. Wherefore, accepting the above opinion as trustworthy, and assuming the sincerity of its utterance, I am forced to include this very opinion among the efficient influences which prejudiced the sanitary state of the French army at the close of the war.

From these premises, stated and reasoned upon in the spirit of completest fairness, I venture to deduce the following conclusions:—

First: That whatever the muster-roll numbers of the French army in March, 1856, its efficient belligerent strength was then reduced below fifty thousand of all arms, inclusive of the troops at Eupatoria.

Second: That at this period a devastating disease abounded in the camps, under circumstances which inevitably tended to enlarge the sphere and hasten the course of its natural destructiveness, and, consequently, to reduce with fearful rapidity the remaining strength of the army.

Third: That, concurrently, the Medical Staff and hospital sanitary resources of the army had become almost unserviceable.

Fourth: That these evils were irremediable in the presence of an enemy, and incompatible with the immediate prosecution of the war.

Fifth: That from these several and united causes, the French army had ceased to hold the foremost place among the allied forces in respect of numbers, equipment, and power of mobility.

Whence it follows, in my opinion, that apart from, and above all other political considerations, peace had become a State necessity for France and her present sovereignty. The country must in time have learnt something of the inglorious losses of the army, and might have shown discontent at frequent conscriptions and fresh loans. The Emperor having well served his dynastic purposes in undertaking the war, and fearing to face the eventualities which its prosecution might have produced, from diminution of military glory, resolved wisely to make the capture of the Malakhoff, and consequent fall of Sebastopol, his justification to the nation for the issue of the Peace Conferences at Paris.

In promulgating these inferential conclusions, I trust it will be believed that my purpose is rather to provoke reflection on their soundness, than to dogmatize on their force and completeness. I venture to think that the facts which I am enabled to publish prove the existence of a state of things in the French camp and hospitals, at the very crisis of the war, little suspected by the Allies in their close vicinity, quite unknown to the public press of Europe, and, probably, equally so to the Cabinets represented at the Congress of Paris. Those readers to whom my deductions may seem inconsequential, will, nevertheless, have had their thoughts directed to questions which are here, for the first time, discussed from a special point of view; while all who have followed my narrative will, I trust, acknowledge that my aim and endeavour have been to state facts fully and accurately, to be concise in argument, and to abstain from any

expression of sentiment—the two latter, literary qualities of easy elaboration on a subject like the present one.

Lastly, I have to mention that my opinions and my information are alike independent of all official bias or control. I cannot charge myself with partiality in the statements of the preceding pages. For the sake of historical truth I have written throughout frankly and fearlessly; my great desire being to invite the judgment of French and English critics on the assertion that—PEACE WITH RUSSIA WAS OBLIGATORY ON FRANCE IN THE SPRING OF 1856, BECAUSE OF THE SANITARY STATE OF HER CRIMEAN ARMY.

CHAPTER IV.

OFFICIAL REPORT ON THE TYPHUS FEVER OF THE FRENCH HOSPITALS ON THE BOSPHORUS, APRIL, 1856.

My excuse for printing this paper, obligingly lent me for the purpose from the Army Medical Department, is, that it contains some details and enlarges upon particular circumstances which could not be properly introduced in the body of the work. Although the declared object of the present publication is to present, in language intelligible to every educated person, the belligerent positions of England and France in the Crimea, at certain periods of the war, still, the ruling idea of the writer—the grounds of his belief, worth of his knowledge, and fairness of statement—can unquestionably be best appreciated, for approval or condemnation, by his professional brethren. I desire this supplemental chapter, therefore, to be received rather for its general bearing on the subject than for its special medical teachings. The circumstances under which the report was composed and the object of its communication to Government gave it at the time more importance than its intrinsic merits can now in any way pretend to. I may add to this explanatory paragraph that I have omitted in printing only such passages of the original

document as have already appeared substantially in the preceding chapters. Mere literary awkwardness has not induced me to suppress occasional repetition and redundancy.

1. The number, capacity, and situation of the several French hospital establishments on the Bosphorus at the present time have been fully described in previous reports to the Director General. To these I now beg leave respectfully to refer in connexion with the present communication on typhus fever as observed by me in those hospitals.

2. The subjoined official return, kindly furnished to me by M. Thomas, Médecin-en-chef des hôpitaux makes known the amount of sickness actually existing in these establishments, and the certified proportion of this specific disease.

Mouvement général des maladies traités dans les hôpitaux de Constantinople, pendant Janvier, Février, et Mars, 1856.

1856.	Totalité.	Fièvrieux.*	Typhus.
Janvier . .	13,520	11,048	... ...
Février . .	21,309	19,740	3,489†
Mars . . .	18,167	16,878	3,748

3. According to official authority, the Hospital Staff employed on hospital service at Constantinople numbered on 1st April seventy-two *médecins traitants,*—surgeons

* Under this head are included all internal affections accompanied with pyrexial symptoms—such as bronchitis, dysentery, rheumatism; also scurvy.

† This denomination first used officially in these returns.

in responsible charge of wards,—assisted by nineteen civil practitioners, Turks, Greeks, Armenians, Italians, Germans, doing hospital-clerks' duties. Of the above seventy-two it is stated that twenty are aides-majors of less than two years' standing, and a few sous-aides, whose ordinary functions in a military hospital are very different from their present appointments.

4. The above numerical return shows that it was not till February, 1856, that typhus was formally registered in these hospitals; a delay resulting, it is alleged, from compliance with the nomenclature made use of in the Crimea, where typhus was not authoritatively known until March. Previously, this fever was marked on the cahiers and bed-tickets by the insignificant terms, état typhoïde, état typhique, fièvre typhoïde.

5. This qualified denomination of the epidemic is the more remarkable, taken in connexion with the January report of M. Thomas to the Conseil de Santé. He there states the deaths from fever, on the average of all the hospitals under his charge, to have been—*one* in *three* of those fever cases brought direct from the Crimea, *one* in *six* of hospital convalescents seized in the wards; *one* in *twelve* of orderlies in good health attacked on duty. Otherwise expressed, a ratio of mortality amounting to nearly *twenty* per cent. This statement is corroborated by the following numbers (official):—

Decade ending 20th March:—Number of sick under treatment for all diseases at that date, 11,366; number of deaths in preceding ten days, 1,009.

Decade ending 30th March:—Number of sick under treatment as above, 9763; number of deaths for ten days, 948.

On the 17th March the removal of typhus cases from the Crimea was authoritatively discontinued. Hence the lesser number of sick and of deaths, and the otherwise inexplicable diminution of the fever in these hospitals. But assuming the preceding figures as elements of approximate computation, in default of fuller details, the aggregate loss by deaths from sickness in the French hospitals here must be reckoned at upwards of ten thousand men during the first quarter of the year, of whom nine-tenths were from typhus alone, or from this specific fever superadded to scurvy, diarrhœa, frost-bites, &c. ("fièvres atteints de scorbut, de diarrhée, de congélation, &c."—Official Report of M. Thomas).

6. In a former semi-official communication,—"Notes on the Sanatory Condition of the French Hospitals on the Bosphorus, March 1856,"—it is said, "The cause of great sickness and mortality prevailing was to be sought for in external and internal agencies." In the former category were then specified, "The reputed malignant nature of the diseases, typhus and scurvy, brought into these hospitals from the Crimea, and the enfeebled condition of the sick soldier on his embarkation."

It is now my painful duty to venture upon delicate and dangerous ground, by directing further attention to the sanitary state of the French camp, and to the condition of their *ambulance* service during last winter especially. Both bear most importantly on the etiology, development, true nature, and deadly results of the fever under review.

These conditions, moreover, have been insisted upon by several high military officers as of themselves

explaining both the origin and type of the epidemic, irrespective of any specific infectious quality.

I scarcely need say that my authority for what follows is that of persons whose rank and knowledge have satisfied myself as to their trustworthiness.

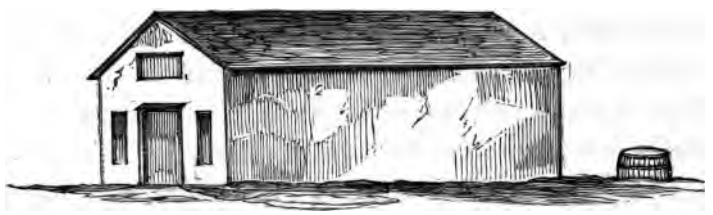
The French soldier in the Crimea, it is now notorious, passed the last six months under circumstances unfavourable to health—namely, overcrowding in mud-floored tents or earth-pits, surrounded by and immersed in deleterious exhalations from a soil sodden with animal and vegetable matters of all kinds; its surface being everywhere covered with indescribable filth, and its depths impregnated with the putrescence of tens of thousands human and bestial bodies. The severity of the season kept the men closely huddled under shelter, every possible entrance of cold air patched up, smoking and card-playing their only pastime, themselves the while disengaging fresh and augmenting old miasmic elements of disease. But there was superadded to these evils of habitation another morbific condition which much intensified their virulence, moral and physical—the insufficiency, namely, of wholesome food, as proved by the extraordinary violence of scurvy in the camp. Scarcely a Crimean soldier has been received into these hospitals since September in whom this sure evidence of noxious nutriment has not been unequivocally manifested.

It is not necessary to argue that a human being placed in these unnatural circumstances not only quickly loses his inherent conservative power to resist poisonous impregnation from without, but contracts, on the contrary, a susceptibility to receive specific disease; particularly when to these abnormal states are conjoined, as was the

case here, improper clothing for day and night use—witness the terrible amount of frost-bites,* the excessive bodily fatigues, the disquiets and sorrows of camp-life, hopes deferred, expectations destroyed.

It cannot be doubted nor denied that a vast proportion of the French Crimean army was subjected to all these injurious influences last winter.

7. But, while the French regimental surgeon thinks he perceives in the above conditions enough to satisfy any one as to the original source of the prevailing fever, the ambulance medical officer steps forward to explain its subsequent pestilential sweep and deadliness. This he does by contributing to our hygienic knowledge his personal experience of the real conditions of the places whither patients were taken for medical treatment on being seized with any sickness. Take, for example, an original pen-picture of the Kamiesch ambulance drawn by one who superintended its professional services. It consisted of forty wooden sheds, and fifteen to twenty tents. The former were designed to hold twenty sick, the latter eight, though these numbers were frequently greater. The sheds, about thirty-six feet long, eighteen feet broad,



CASK FOR LATRINE.

* Frost-bite cases admitted into these hospitals:—January, 1073; February, 990; March, 598 (official).

and eight feet in height, gave a breathing space of two hundred and fifty cubic feet to each inmate. There was a doorway only at one end, where also were placed the only means of ventilation and light, as here sketched.

One stove burning green wood or charcoal supplied some warmth; the floors were unboarded. The bedsteads were the *lits de camp*, designed to accommodate two persons, on which a *paillasse* was laid. The bed furniture consisted sometimes of two blankets, commonly only of one and a single coverlet; no sheets; neither straw of beds, nor tick, nor blankets were changed for several months.

The first two requirements of an ambulance, namely, washing and drying sheds, were never provided, and foul body-clothes were cast aside and left uncleansed. When sick and convalescent left hospital, they were supplied with the necessaries nearest at hand. When a fever, diarrhœa, or scorbutic case was taken to the dead-house, the vacated bed was forthwith occupied by the first fresh admission. The only preparation made for his reception was to wring dry and shake the lower blanket, and substitute the upper one in its place. The same proceeding to be repeated *pro re nata*. The sick tents were in no better condition as respects bedding and beds, and worse in regard to wet, cold, and wretchedness. Every shed had the services of an orderly, as had two tents one,—men taken from the most worthless class of soldiers, and judged fit for no other use. The duty was, indeed, made a punishment. There was no *infirmier de garde*, or other substitute; consequently, the duty of night-watching was added to that of day attendance. Human nature could not sustain such toils. Orderlies would

shirk labour, and sleep on their posts. Hence it happened that patients too ill to help themselves to drink or medicine went without both—or too weak to raise themselves for the chamber utensil, or it to their sides, had to empty the bladder where they lay—or, unable without assistance to reach the *latrine* outside, befouled the beds. Even in the depth of winter, the ground covered with snow and ice, or knee-deep in mire, the sick man, if he ventured outside to seat himself on the edge of the unsheltered half-barrel, had no other means of protection against the inclemency of the night than his bed-covering wrapt round his shoulders, his body and limbs bare, feet shoeless. No wonder that under such circumstances men should be found, as they have been, lying dead outside the ambulance. Thus, too, it happened that patients have been known to lie for days with half their bodies immersed in human excretions of all kinds; and surgeons witnessing such scenes could only deplore their own utter helplessness to prevent or remedy them. It is very credible that typhus affected sooner or later nine-tenths of all the sick who passed through the ambulance service.

Of such-like ambulances there were fourteen during January, February, and March, each constantly containing from eight to eleven hundred patients: the average deaths in each of them, on the authority just quoted, were from twenty to twenty-five daily; making an aggregate loss by death from disease alone for this period of at least twenty-five thousand men, of whom five-sixths were cases of fever. (Other than medical authority augments this estimate of mortality by one-fourth.)

8. Adverse to recovery as was this ambulance service,

the alternative of removal to Constantinople hospitals was full of hardships and dangers to life. A French naval surgeon, in a very able paper read before our medical society, stated that, on several occasions which he detailed, a threefold greater number of patients labouring under fever, scurvy, bowel complaints, was packed into a vessel's hold or on deck than ought to have been done, even in ships of war; and that the same overcrowding occurred in transports in which the sick were from five to eight days on board. Sick men, he said, were laid on the decks in their regimental clothing, whatever their state, for the most part with only a single blanket for a covering, however severe the weather.

There were no regular orderlies to administer to their bodily wants of any kind on ship-board. The same gentleman confidently attributed the great mortality of the sick on the passage down, and the subsequent decimation by fever which happened among the crews of certain vessels of the French navy, to this pitiable state of over-crowding, filth, and neglect of the sick soldiers. These allegations were made in the presence of M. Baudens, *Médecin-Inspecteur, et membre de Conseil de Santé*, who could only plead the greater humanity of transporting the sick in any manner than of leaving them on the strand at Kamiesch to die.

9. Having thus far depicted the breeding grounds of the fever imported into the French hospitals here, I have only to reproduce two or three passages from former reports on their internal condition and economy, in order to make known their peculiar adaptability for its further propagation.

Speaking of the Hôpital de Pera, one of the largest

and completest structures so employed, I said, "On the 1st March there are only a few unoccupied beds, made so by the deaths of the preceding twenty-four hours." The then complement of the hospital was two thousand four hundred sick.

"A peculiar offensive odour is perceptible throughout; filth of various sorts covers the floors, walls, and windows; patients in bed and orderlies smoke and spit everywhere; there are no night-chairs; chamber-pots serve for all purposes; the bed is the ordinary deposit for the military clothes, boots, &c., of the patients; the blankets, of which there are only two, are foul and damp; the sheets very dirty and fetid. The state of the *latrines* is odious. From this source, and other local causes, a most foul stench pervades the wards, and is even perceptible in the corridors, in spite of open windows and the free aspersion of chlorides." This was the hospital which strangers were invited to inspect *par préférence.*

After visiting Gulhanéh, March 7th and 13th, I wrote: "The windows had not been opened, save momentarily, for several days, in consequence of the state of the weather; and they are the only means for thorough ventilation. There are no night-chairs or other closed utensils, and several chamber-pots were noticed to have been used recently for alvine dejections. The floors do not appear to have been washed, scraped, or even roughly swept for a long time. The air is fetid, pungent, nauseous, loathsome, occasioning an impulsive desire to escape its influence. One feels through every sense he is breathing a plague-tainted atmosphere of probable quick injury to the healthiest, of certain destruction to the bedridden inmate. The wards are without permanent

means of ventilation. I asked myself what good could food or physic do for sick persons breathing day and night such a polluted atmosphere, lying in the midst of so much filth of all kinds, and themselves and their maladies augmenting both, and intensifying each to the pitch of indisputable contagion. It is hard to understand wherefore such a state of things is tolerated by any one possessing the right to represent or power to remove an evil which indubitably retards the recovery of the sick, augments the natural mortality of disease, and exposes the bedside attendants to pestilence and death." Yet, Gulhanéh is the residence of M. Thomas, *Médecin-en-Chef des hôpitaux*.

These extracts show that the seeds of typhus, imported and of home growth, were sown broad-cast in a soil where, manured by overcrowding of sick, filth of floors, beds, blankets, neglected human excretions, putrifying animal and vegetable exhalations, infectious contamination, close moist stagnant air, they took sure root and multiplied into a pestilential growth, upas-like in deadliness and desolation.

10. I proceed to the close examination of the disease itself at the bedside of the sick.

In casual visits to the French hospitals last summer I noticed many cases of fever marked on the bed-tickets as typhoid, or, more indefinitely, as *état typhoïde* or *typhique*, which English physicians would unhesitatingly have pronounced common typhus. Presuming this nomenclature to be more significant of political reserve than indicative of medical diagnosis or knowledge, I gave little heed to the circumstance. It was not till a later period, when placed in responsible clinical contact with the sick,

and familiar communication with the French medical staff, that I fully comprehended the amount and sincerity of the discrepancy which existed, and had always prevailed, among scientific observers respecting its true nosological place. It is acknowledged by M. Thomas that the same affection abounded in the hospitals during the winter of 1854-55; and that, losing some of its intensity last summer and autumn, it reappeared this winter under similar conditions and with similar symptoms to the preceding. The French surgeons, nevertheless, continued to dispute its nature; and up to the present moment several able papers have been read, and four public discussions taken place at meetings of the Imperial Medical Society here, most numerously attended, to elucidate and determine the question of its identity with typhus. It is thus made known that some writers and speakers consider the epidemic to be a variety of typhoid fever (*entérite folliculeuse*, &c.), others malignant remittent fever; the majority pronounce for the true typhus of camps and cities. For myself, I could have no hesitation in coinciding with the last observers, nor difficulty in pointing out the fallacy of confounding under one denomination two fevers essentially distinct, in respect of symptoms, course, morbid lesions, and etiology. The error is excusable in French practitioners, who have had very rare opportunities of seeing typhus in their own country. I need not say that every English authority now recognises a nosological distinction betwixt typhoid fevers and typhus. With us both are perfectly well known and accurately distinguished. It may be permitted me to add that my former opportunities for observing the remittent fevers of the Levant enabled me

to point out in what these differed from the fever under review, and to controvert the views of those who advocated their identity.

11. Perhaps it were proper for me to close the present report here; for, having stated my opinion of the real nature of this fever, I have little to add that can interest the Director General with regard to any symptomatic specialties, conditions of development, or *post-mortem* appearances as observed in the French hospitals.

Known the general sanitary state of the French soldier in camp (par. 6), the manner of his treatment at the ambulances (par. 7), the miserable provision made for his passage thence (par. 8), and the hospital service to which he was subjected after his arrival in these hospitals (par. 9), the experienced medical mind at once embraces and justly values all these influences, as they modify individual cases and affect the chances of recovery for the patient. Still it may not be without some ulterior use to regard the epidemic from a French point of view, and for me to reproduce a few details from my daily note-book.

11. A. *Diagnosis.*—In the typhus studied in the French hospitals, as elsewhere, there is present the characteristic maculæ and petechiæ, very distinguishable from the rose-coloured papulæ of typhoid fever. In the former there is absent the abdominal symptoms so prominent and almost pathognomonic of the latter. Equally absent are the anatomic lesions which constitute the character of simple continued fever—namely, morbid states of the intestinal follicles, mesenteric ganglions, and spleen. Moreover, the identity of our home-bred typhus with the typhus of the French camp is shown—(1) in that

both have their origin and development under the influences of the same concurrent causes, which are, over-crowding, accumulation or filth, starvation, and wretchedness; (2) that both have the like modes of attack, the same characteristic eruptions, similar incidental complications, run a parallel course, and present analogous critical phenomena. Lastly, both are potentially infectious, and essentially functional disorders; that is, communicate by human intercourse, and have an existence independent of, and are capable of proving fatal without, any appreciable local or structural lesion.

B. *Symptoms.*—During five weeks' service at the *Hôpital de Gulhanéh* I had the responsible charge of nearly a hundred cases of fever—the majority imported from the Crimea; a few in whom the disease had been contracted in my wards by patients suffering under, or convalescent from scurvy, frost-bites, bowel complaints, &c., and four orderlies in previous good health. Thus observed, I have noted the sudden invasion of the disease among the last to be marked by rigors, intense heat, headache, delirium. Stupor and general prostration follow close upon these early symptoms. In persons weakened by previous disease the stupor occurred on the second day, attended by an extraordinary depression of the countenance and alteration of the features. Deafness, or at least indifference when spoken to, was also frequently of early occurrence. During the course of the fever the skin continued dry and hot; and about the second or third day, in persons retaining a considerable amount of vital force, there appeared the petechial eruption, lenticular or confluent, purplish red or brown; and which remained till about the seventh or eighth day of the disease, where

the patient lived so long. The thirst was great, though the tongue continued moister and cleaner than I expected to find it. Here, for the first time, I had my attention called to a remarkable incertitude in the movements of this organ, and found the circumstance had been noticed by others. In the majority of cases the abdomen presented no abnormal conditions of sensibility or size. Where pain on pressure was shown to exist, it was only in the *right* iliac fossa. Constipation was the ordinary state of the bowels at the beginning. I have not seen a case of tympanitic distension. In scorbutic cases the lungs were frequently congested, and this complication seemed more fatal than the cerebral or abdominal forms. Sometimes, in the early stage, the pulse was full, hard, firm, regular; more often, small, rapid, compressible. The previous state of the patient evidently influenced the circulatory function. Epistaxis occurring after the fourth day was a symptom of noticeable frequency; as also suppuration of the parotid glands. By those whose experience is large the average duration of the fever is reckoned to be eight days; frequently ending fatally in the first week, it seldom went beyond the third, and did well. Oftentimes the termination of the disease was as rapid and unexpected as its advent. I have seen what I considered mild cases suddenly and without apparent cause become worse, and sink in a few hours. On the other hand, very bad cases, seemingly *moribund*, have as suddenly assumed a favourable change, and passed rapidly into convalescence. This happened to an English sailor brought by mistake into the hospital for a bad leg. After lying for some hours apparently *in articulo mortis*, he revived, and in five or six days he was convalescent.

Moreover, whatever the causes which lead to a favourable issue of the case, this convalescence advanced with a rapidity and constancy very different from the slowness and incertitude of the same nominal state in typhoid fevers.

C. *Post-mortem Appearances.*—This difference in the progress and issue of the convalescent state which follows typhus and typhoid fever is explicable by the peculiar intestinal lesions that distinguish each. I have assisted at about twenty *post-mortem* examinations most carefully done, the subjects being chosen for some specialty of the case in life. In seven of these—persons seized while in the possession of ordinary good health, two of whom were surgeons—there were found in the intestinal canal only a few red and yellow discolorations in circular patches or bands, some morbid thickening of the mucous membrane of the *small* intestines, slight enlargement of Peyer's glands; in a word, only abnormal appearances found as the result of many different affections, and whose morbid character may even be doubted. In all my *cadaveric* inspections I failed to discover fungous, pustulous, ulcerated, gangrenous patches, or engorgement of the mesenteric ganglions, or, in fact, any other anatomical lesion pathognomonic of typhoid fever.

D. *Communicability and Transmissibility of this Fever by Human Intercourse or other Means.*—Access has been permitted to authentic documents, which show that, in fifty-seven days of January and February last, 603 of 840 orderlies on service in twelve hospitals here were attacked with typhus. On the 15th March there were in the *Hôpital de l'Ambassade Russe* (officers' hospital) thirty-one surgeons in different stages of typhus, and

only one *officier de troupe*, also five priests attached to the hospital service of Constantinople. Several *Sœurs de Charité* were under treatment elsewhere for the same. M. Thomas informs me that, of the whole Medical Staff who have served with the French army since its arrival at Gallipoli, in 1854, down to 28th April last, numbering about *three hundred and fifty*,* seventy-two have fallen victims to their professional duties—that is, twenty per cent.; being, I am told, three times the proportionate loss of the officers of any other service from all causes.

Accurate medical observations have ascertained a few facts concerning the manner of increase of the epidemic. On its outbreak fever was seen to occur from contiguous bed to bed, and again to pass from a centre to a circumference. Afterwards, this mode of extension was more clearly traced and proved; only, it was remarked that one bed would be skipped by *for a time, to be visited at a later period.* It is not alleged that all the wards of an hospital were equally or simultaneously attacked; but it was observed that, as soon as typhus had established itself in a ward or corridor, it thenceforth spread to other wards and passages,—at the outset, irregularly and insidiously, afterwards, indiscriminately to every individual in these wards. Thus, on the authority of M. Jacquot, Médecin-en-Chef of the Hôpital de Pera, in ward No. 3, under his charge, containing *four rows* of beds, the *third* row was for a long time a pestilential source (*foyer typhique*), from which the infection was borne only to a bed here and there in the other rows, whilst every bed in No. 3 itself had a fever case, or soon became the

* Including *sous-aides*, and *aides-majors* not médecins-traitans.

seat of one; so that a patient suffering under some other disease, if brought within that fatal precinct, fell inevitably a victim to typhus. In the admirable paper read to us by this gentleman at the Society of Medicine at Constantinople, on the 29th March, he used the following descriptive language: "To-day the entire hospital is saturated with the poison of typhus (*miasme typhique*). It falls as rain from the ceilings, saturating the blankets of the sick, the body-clothes of the attendants, trickles down the walls, overflows the floors, from which it is again exhaled. It is breathed at every inspiration, and imbibed at every pore, contributing an aëriform bath, in which all suffer a fatal immersion."

It is alleged that it was not only in the wards themselves that the infection spread, but likewise wherever close intercourse with the sick, and even with their bed and body-clothes, was allowed. For example, at Dolma-Batchi is the landing-place for the Crimean sick allotted to certain hospitals, near to which are two buildings, the one occupied by twelve French soldiers doing the duty of police, the other by ten orderlies appointed to assist in the disembarkation of the sick. Now, during February and March, the *personnel* of the latter has been renewed three times; every man has successively been attacked by typhus, whilst, as respects the police force, who have not necessarily any personal communication with the patients landing, only three have been similarly affected. The property of bed and body-clothes used by these fever patients to communicate typhus seems confirmed by the following fact. The old Turkish hospital of the Polytechnic School ceased to be used for sick before the appearance of the epidemic. It stands on

a range of heights, alone, at a considerable distance from the nearest French hospitals, and is at present used as a storehouse for the worn-out bed-furniture of patients who have undergone treatment in certain of the French hospitals. It is certain that very many people so employed, and residing on the premises, have had the fever. Furthermore, in vessels engaged in the sick transport service, the infection has proved so wide-spread and fatal to the crews, that orders have been issued to the admiral on the station to discontinue such appropriation of the imperial navy. It is known that in some ships one-half of the sailors have been seized with typhus after transporting hither sick from the Crimea, and even invalids from Constantinople to France. In connexion with this point, it has been noticed that there appears to exist a period of incubation, as it were, during which the health of the crew so employed is not affected; but suddenly, after an interval varying from seven to sixteen days, the fever breaks out among a large proportion of them. A striking illustration of this was brought before the above-named society at a recent meeting. The ship-of-war *Sané* brought down three hundred sick from Kamiesch. Five days after landing them she took on board A'ali Pacha and his suite of nearly one hundred persons, for Marseilles. On the very evening of the ship's arrival there, being seventeen days after quitting the Crimean coast, fifty seamen were struck down by typhus in twenty-four hours. Not one of the ambassador's people was affected. Several similar instances were mentioned on the same occasion, in the presence of M. Baudens and of other corroborative authorities.

It deserves to be remarked that the two hospitals

wherein the propagation of typhus by infection has been most clearly demonstrated—namely, Ramis-Tchiflic and Pera—are precisely those seemingly enjoying the greatest advantages of natural salubrity of situation. They are both immense stone structures, like to Scutari hospitals in internal arrangement, stand on an elevated plateau, isolated from other habitations—the former grandly overlooking the Bosphorus, the second situated on the heights that form the western boundary of the Valley of the Sweet Waters. Two other facts bearing on this particular may be cited,—one, that the communicability of the fever is most positive and constant in those parts of wards and of hospitals beyond the sphere of proper ventilation; the other, that every fresh crowding of the hospitals augments greatly and immediately the number of new cases, while a diminution in the number of patients in a ward or hospital, by presenting an occasional vacant bed, sensibly affects the chances of typhoid attack consequent on the presence of the sick. Finally, subsequent investigation and inquiries have only confirmed my earlier opinions on this question. Early in March I said, "The contagious nature of the fever, both as imported from the Crimea and originating in the hospital, is neither doubted nor denied by any French medical officer who has watched its progress through his wards. The terrible number of surgeons who have fallen victims to their bedside attendance gives sad earnestness to their convictions. Sisters of Charity, too, clergymen, orderlies, and all others whose duties compel them to pass several hours daily in the service of the wards, have been, with few exceptions, attacked. But worse than this is the deplorable fact that patients labouring under other

diseases, when their progress to recovery is established, are seized with the identical fever, and contribute in their persons to the list of the dead and the spread of the pestilence."

E. *Amount and Rate of Mortality.*—Hospital returns, to which I have been obligingly allowed access, but not for publication *in extenso*, show that typhus has reigned equally in all the places occupied by the French troops—Varna, the valley of the Chersonesus, the heights of Inkermann—Eupatoria alone excepted; also in the encampments and depôts around Constantinople.

It is likewise stated officially that it proved mainly destructive to men weakened by previous camp-hardships, privations, and earlier maladies. Regimental officers have experienced a remarkable immunity from attack.

Its comparative and absolute lethal influence over the Medical Staff has been formerly stated. To supply immediately this loss, and the requirements of the service, by qualified military practitioners from France, was found impossible, and nineteen civilians, "*malheureusement peu capables*" (official), were engaged; *aides-majors* were made *médecins-traitants*, intelligent soldiers supplying their places, or at least exercising functions which two years' discipline at the *Val-de-Grâce*, Paris, is thought indispensable for learning, under ordinary circumstances. I produce these facts in connexion with the deaths from the disease, because of their political and other significance. Official returns admit of a mortality of one in seven of the typhus cases. I have grounds for believing that this is an understatement. Where every surgeon had from two to three hundred patients under hand, mostly acute cases, it is not to be wondered at that the statistics

of his wards became a very secondary duty, and that his deaths were recorded under the name first registered. To estimate the deaths from typhus at four-fifths of the aggregate mortality is believed moderate. We have seen that for three months the deaths were certainly above one hundred and twenty daily; a rate of mortality not surprising, when it is remembered "that scurvy affected, in a more or less severe form, *every* sick person brought into these hospitals during that period from before Sebastopol and Varna." (Official.) In other words, that the subjects of typhus were uniformly scorbutic patients.

F. *Treatment.*—Notwithstanding the preceding great difficulties of his position, only feebly depicted here, and the many administrative obstacles opposed to his professional labours, the French surgeon, I can affirm with equal truth and pride, does his duty to the hospital sick with an amount of zeal, courage, and self-sacrifice second to that of no other military officer. It was from no ignorance of the homicidal consequences of over-crowding, dirt, and want, nor lack of remonstrances against his destitution of all adequate and ordinary means of successfully combating the ravages of scurvy, and the other malign influences at work, propagating and intensifying a deadly fever, nor belief that one man's mental and bodily energies, however taxed, were equal to the bedside requirements of four, three, or even two hundred patients, that his manner of treating camp sickness, in ambulance and hospital, was unscientific to the eye of his English colleague, and its results on a level with his means.*

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* The morning visit commences at *seven*, and must be finished by *nine*, to allow an hour to prepare the breakfast ordered then. The afternoon visit is made at three, equally to allow an hour for any

I have seen some things to admire in French hospital organization, and can commend certain facilities for uniformity and despatch, which the system of cahiers and formulated prescriptions, tisans and food, affords; and, indeed, without which it would be utterly impossible for any surgeon to glance at and indicate any particular physic or regimen for his patients, during the two hours to which his morning visit is restricted. But I need not point out how these very facilities, this rapidity of action, and disproportionate clinical investigation, produce, as their least evils, necessarily imperfect diagnosis, empiricism in practice, and mere conjectures as to the efficiency of modes of treatment or the fatality of disease.

This is no fanciful sketch, inopportunely forced on view, when the matter in hand is the treatment of typhus in the French hospitals of Constantinople, the head quarters of its Medical and *Intendance* Staffs. Neither medical science nor common-sense humanity had fair scope for their exercise under the above circumstances. For this reason it is thought unnecessary to bestow many lines on this part of my subject. From what I observed of the practice, and learnt by discussion of the pathological views of my French colleagues, there are little of novelty, and less of reasoned purpose in their therapeutics, as regards the treatment of typhus. I have heard of general bleeding being employed by one or two surgeons, and leeching of the head by others; but the results have not

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alteration of the dinner ordered at the morning visit. This visit closes all the responsibility of the *Médecin-traitant* for the day. All other ward-duties and casual requirements devolve on the *Médecin de garde* (orderly officer).

recommended the treatment. Emetics and purgatives are very generally prescribed at the commencement for those seized in the wards, and the large use of calomel is no longer an exclusive English practice. Scruple doses twice or thrice in twenty-four hours, followed by saline purgatives and turpentine enemata, prove, by the generality of the practice, how utterly *Broussaism* is in desuetude.

Counter-irritation by sinapisms, blisters, and even the actual cautery down the spine, is much in vogue. Quinine in very full doses—twenty to twenty-five grains—and almost in all stages of the disease and state of the patient, is prescribed generally; by some for its alleged tonic properties, by others as a so-called antiseptic, by most for its undoubted febrifuge virtues. More than one practitioner upholds its specific influence in the epidemic.

For the most part, the diet consists of soups and medicated drinks. Wine is sparingly ordered for its stimulating properties. Several of my French colleagues bore willing testimony to the superior efficacy of our English port wine, a generous supply of which was furnished from the Scutari hospital stores on the special recommendation of Dr. Linton. I have to express my personal acknowledgments to Miss Nightingale for the gift of a barrel of this wine, presented more particularly for the use of my own wards at Gulhanéh.

As respects my individual experience and practice, a very few sentences will tell all necessary to be made known at present. Looking upon this fever as essentially a primary disease of function, in the sense in which Dr. Corrigan uses the term, and which lesion of function alike stamped its character and defined its type, I sought

to ascertain the predominant function affected, and, on this discrimination, founded the indications of my treatment. In the decided majority of my Crimean cases the lesion of the circulatory function was shown unequivocally in the state of the pulse, feebleness of the heart's action, petechiæ, and utter prostration of the patient.

In all the orderlies, and most of the convalescents, infected in my wards, I found the fever ushered in by decided cerebro-spinal disturbance. In a few there were pulmonary complications, and these, as before stated, proved least amenable to any treatment. In all the function of nutrition, including assimilation, secretion, and excretion, was compromised. With this variableness of form, though not of essence, there could be no exclusive system of treatment. Neither bark or wine, bleeding or antimony, emetics, purgatives, diuretics, counter-stimulants, could be used indiscriminately or invariably at the outset, or during the course of the disease. Hence any specific medication or uniform mode of general treatment must degenerate into sheerest empiricism. For myself, in having recourse *par force* to French pharmaceutical *formulæ*, I experienced some difficulty in devising and substituting remedies for those which my older acquaintance with the fever first obviously suggested. Thus the only available preparations of mercury were calomel, corrosive sublimate, and an ioduret. No Dover's powder, though admitted by name into the *formulaire militaire*; no henbane nor hemlock; no preparation of ammonia, save the acetate as a salt; no brandy; no disposition on the part of the *pharmacien* to obtain any drug or prepare any medicine which he was without, even though sanctioned

by the above printed authority; nor power on the part of the *Médecin-en-Chef* to enforce compliance.

In the hospital dietary there was offered sufficient variety, but little substantial nutriment; and the surgeon has no licence to extemporise or substitute *extras*, otherwise than under the penalty of having the cost of the same deducted from his next monthly pay. I speak here of the regimen of the private soldier. In the case of sick officers there are no restrictions whatever.

On the whole, a wretched administrative parsimony governs and injures medical practice in the wards of French military hospitals. Economy of all kinds abounds throughout, save in human life and suffering.

SCUTARI HOSPITAL, *2nd May*, 1856.

NOTE

ON THE HOSPITAL MEANS AND SANITARY STATE OF THE TURKISH AND SARDINIAN ARMIES.

It has been suggested to me to append a brief note respecting the sanitary state and hospital provisions of our two other Allies in the Eastern War. In complying, I fear that I shall only seem to make more apparent the exceptional character of the preceding representations. Justice, however, obliges me to say that, during the winter of 1855 and spring of 1856, France stood alone as regards the sufferings and losses from camp diseases experienced by the Crimean armies. I know of no fact that discredits the foresight, judgment, and success of Turkey and Sardinia in maintaining the health of their soldiers in the field and of restoring the sick to service. On the contrary, my own professional experience entitles me to speak of the liberal and enlightened measures taken at Constantinople by the Turkish Government for the welfare of their sick and wounded soldiers. There was provided a large hospital staff, consisting of civil practitioners—natives and foreigners,—all selected with care; several, teachers at the Imperial School of Medicine, and many otherwise of creditable repute in private practice. The pay and appointments were above those of similar rank in Continental armies; and their personal position and professional authority in their wards were at least equivalent to what the English medical officer enjoys. The ordinary hospital dietary was excel-

lent and abundant, while the prescribing surgeon was unrestricted by any formulated code as regards medicinal preparations and articles of food.

In consequence of the direct orders of the Sultan, the Allies had been invited to select and appropriate all the best buildings and sites for their hospital purposes. Notwithstanding which, the Turks, by re-opening certain disused asylums for the insane, and by converting several large private houses into military sick wards, were enabled to avoid overcrowding of patients from the armies in the field and the garrison of the capital. I scarcely need add that the Mussulman duty of personal cleanliness and of respect to medical authority insured wholesomeness, order, and propriety throughout the sick wards. Dr. Linton will, I have no doubt, remember the entire satisfaction which he experienced in inspecting with me, in January, 1856, a Turkish hospital at Coombur-haueh, on the Golden Horn. In the comparatively empty state of the wards, the total absence of malignant camp diseases, the airiness of the apartments, and cleanliness of the floors, furniture, and bed-clothes, the comfortable appearance and condition of the patients, the number of orderlies and manifest ability of the medical attendants, he saw everything to commend and to praise at his subsequent interview with my esteemed friend Djemil Effendi, Chief of the Army Medical Department.

As respects the hospital means of Sardinia, I believe that, in this particular, her army partook of the excellent military organization which distinguished every other department of the service. Except for a short time, and to a limited extent, the troops in the Crimea enjoyed immunity from specific camp diseases. Cholera, which assumed a certain violence at an early period of the

campaign, was speedily and permanently got rid of, and typhus fever and scurvy were of rarest occurrence. The only visit which I made to the Sardinian hospital tents satisfied me that the comfort and cure of the sick were quite as well attended to as in the British lines. I had the advantage of visiting frequently the extensive and admirably-arranged hospital huts established at Yeni-Kioi, close to Therapeia, on the Bosphorus, and can speak to their completeness in every useful requirement. The Sardinian medical and other military authorities frankly made known officially to General Storks and Dr. Linton their need of hospital equipments of all sorts for this establishment, and as frankly avowed their generous acknowledgments when furnished with them from our Purveyor's stores. There subsisted, in fact, a cordial confidence and sympathy of feeling between the medical services of the two countries, which were manifested in very numerous instances. Let one of these suffice for illustration. A caïque arrived daily for a time at Kulalee from the Sardinian hospital for a quantity of Wenham ice, and this luxury for the sick was ungrudgingly shared as long as any remained. In the same spirit, the best part of Kulalee hospital, with all its contents, was made over to this one of our Allies. Fortunately, the healthy condition of the troops at the front, and the consequent paucity of sick in the Yeni-Kioi hospital, rendered unnecessary the occupation of this additional accommodation; a circumstance which supersedes all other testimony to the high sanitary state of the Sardinian army and the perfect efficiency of its medical resources.

THE END.

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